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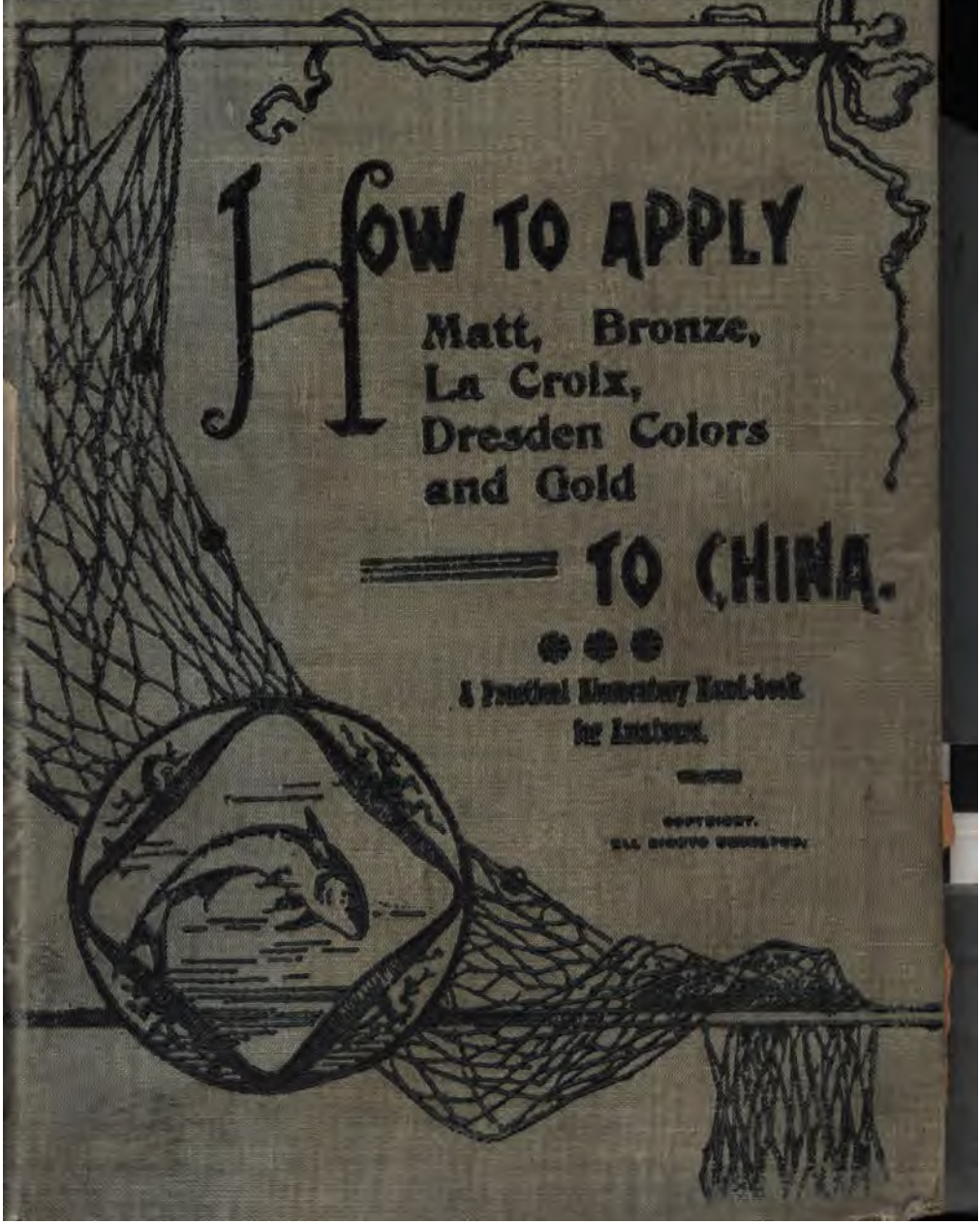
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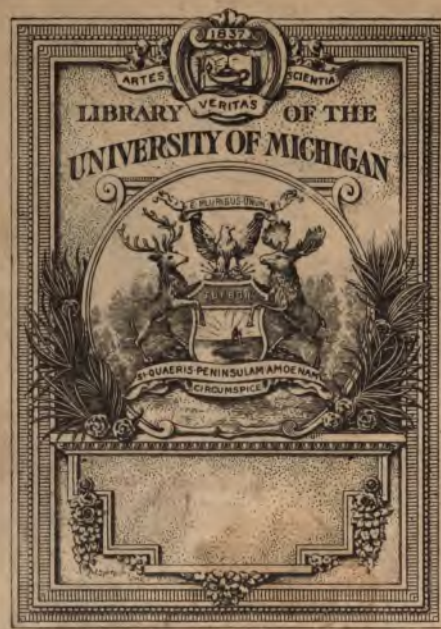
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How to Apply Matt, Bronze, La Croix, Dresden Colors and Gold to China.

A Practical Elementary Text-book for Learners.

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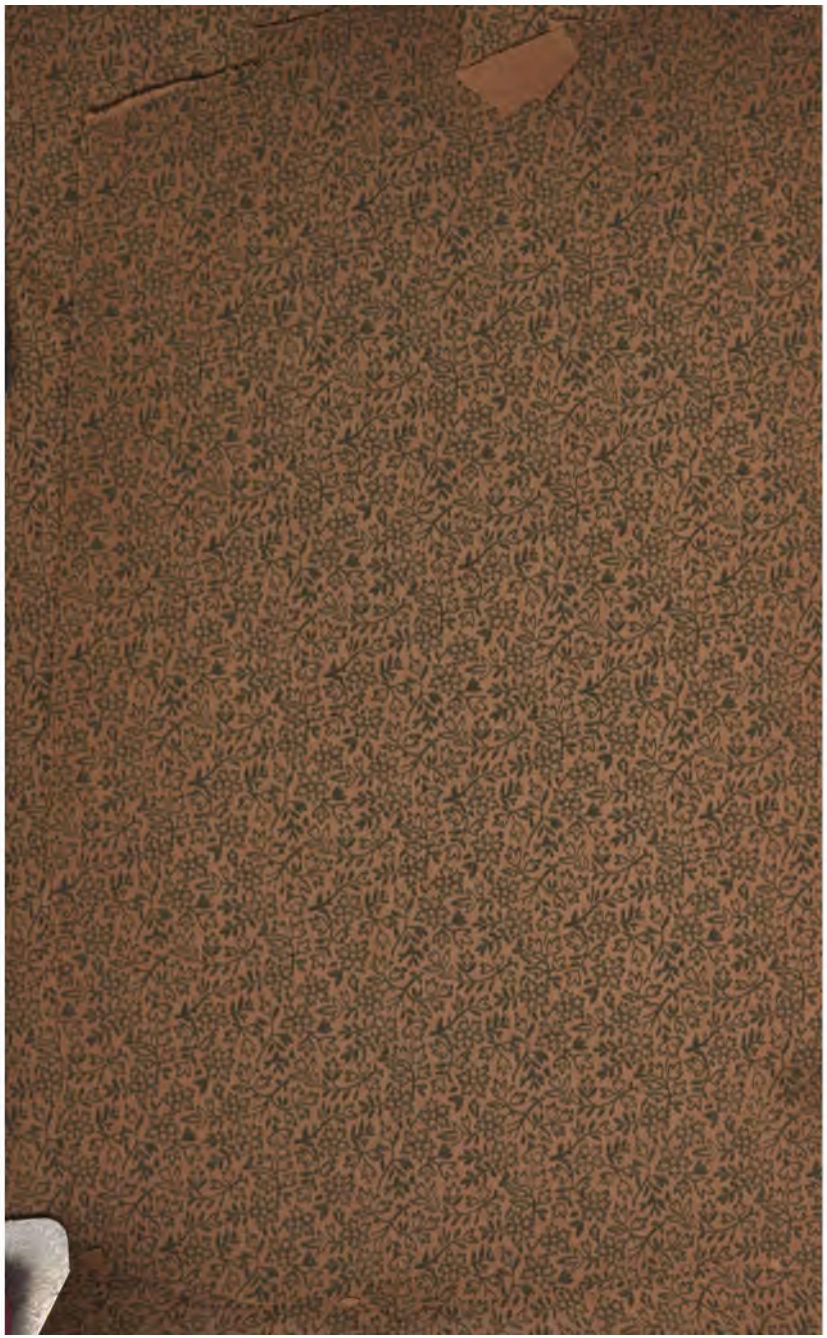




THE GIFT OF

Michigan Union





TWELFTH EDITION.

How to Apply

ROYAL WORCESTER, MATT, BRONZE, LA CROIX AND DRESDEN COLORS

to CHINA.

A PRACTICAL ELEMENTARY HAND-BOOK
FOR AMATEURS,

Containing Reliable Methods for Gilding, Mixing of Colors, Ground-Laying, Relief-Paste, Firing, Etc.

PUBLISHED BY A. H. OSGOOD,
NEW YORK.

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PRESS OF STYLES & CASH, NEW YORK.

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Introductory.

THE principal object of this practical elementary hand-book will be to solve the difficulties attending the application of vitrifiable colors to china. Its methods are based upon the best practical experience, and devoid of all complications, making a clear and concise reference manual for amateurs, and a rapid guide for those who already possess some knowledge of ceramic decorations. Amateurs are greatly encouraged to further excellence when they find, with the aid of reliable information, they are able to secure good results; and to those who are undertaking the task of self-tuition, this manual will be found invaluable.

Materials Necessary:

20 to 25 colors.

Ground-glass slab and muller, for mixing.

1 porcelain palette, size 7 x 4½ inches, with 21 recesses and cover.

1 erasing point.

1 ivory stylus.

1 alcohol lamp.

1 steel, and horn palette knife.

1 bottle of tinting and painting oil.

1 " tar oil for mixing relief paste.

1 " fat oil for colors and gold.

1 " tar paste, for stenciling designs preparatory for painting.

1 bottle of rectified spirits of turpentine.

6 imported French shaders, assorted.

3 " " tracers for outlining.

2 " " tracers, very small, for laying relief paste and gold.

1 large No. 6 deer-foot stippler, for blending.

2 small stipplers, for gold.

2 grounding brushes, sizes ⅜ and ½.

1 stick of India ink.

1 sheet adhesive paper, to secure tracings in place while transfering the design to china.

Tracing and impression paper.

Dabbers made of soft linen or silk, for blending backgrounds; always have a full supply.

A small piece of pumice stone, or emery cloth, No. oo, for removing roughness.



The Selection of China for Decorating,

Particularly for figures, faces, etc., should be free from indentations, black specks, scratches, fire cracks, and perfectly white, having a highly polished surface and selected with special care, while for general decorating, it is not necessary to be so exacting, having in view pretty and artistic shapes which are not confined to one manufacturer alone.

The Berlin porcelain has great resistance and requires a strong fire to "fuse" the colors. Its highly finished surface makes it desirable for figure painting.

The French porcelain works kindly with all colors, and fires beautifully, and they certainly excel in designs as all importations show.

The English ware has a soft glaze, rendering a high gloss to the colors in firing.

Copeland (of Staffordshire) manufactured ware has a blue-white glaze.

Minton's is rather gray in tone.

The Doulton pottery has a creamy, soft tint which is complimentary to all colors, particularly the pinks, and for gold.

American productions are really so beautiful and unique in form for table service and art pieces, we shall soon be able to confine our selections entirely to home manufacture. The exquisite creamy glaze and delicate finish of the Trenton (New Jersey) Ware should compel a very careful treatment with color. It is a question whether you can improve it with background tints—would rather suggest raising designs solidly with relief paste, or outline decoration, to be completed with different colored golds.

It is a waste of time to decorate china which has been in use, as it frequently turns black in firing, and the spots cannot be removed.



Mediums for Painting and Tinting.

It is absolutely necessary that all mediums used with vitrifiable colors, should be of the very best quality; it is misplaced economy to have them otherwise. If unreliable they either dry too rapidly, and more often not at all, remaining oily and gathering dust, until the final test by fire develops blisters and gives to the painting a crackled effect, besides many other discouraging results.

To guard against all possible difficulties of this kind, use the tinting and painting oil prepared by the Osgood Art School for amateurs, working equally well with Royal Worcester, (it does not glaze them,) Dresden, and La Croix colors. It combines in one preparation several oils of the finest quality, and restricted to such exact proportions, that it can always be depended upon as a thoroughly reliable medium in every respect.

The proportion of tinting oil to colors for painting is about two-thirds of color to one of oil, which must be mixed with the color first. Afterwards add the turpentine; if too much is used, the color will run. The right consistency is soft

paste or cream, which will flow smoothly from the brush. If the color is too thick, it will drag in working, or, if too thinly diluted, it will not hide the glaze of the china.

Tar oil, a very satisfactory medium for mixing with relief paste. It should always be perfectly fresh.

Mediums, after a time, become fat, and there is greater risk in using them. If well corked, this can in a measure be avoided.

Tar paste, a special medium prepared for removing color from back-grounds, leaving the design in white for painting. By its use you are able to secure a clear, sharp outline, and a release from the tiresome process of "scratching out." It is always ready for use.

Rectified spirits of turpentine is more pleasant to work with, as the odors from inferior qualities are strong and disagreeable.

Clove oil, a useful medium, especially in painting figures, fruit and fish, where the colors are stippled into soft blended effects. It keeps the colors open.

Fat oil, required for mixing colors and gold.

There is a general tendency with beginners to slight the fact that all mediums should be used sparingly. It is almost incredible how small a quantity is actually required to prepare the colors for working smoothly, while an excessive use ends in repeated failures.

Understand the difference between lean and fat

mediums, by testing them with colors, using too much, and again, with the right proportion. The colors should present as little glaze (produced by oils) as possible, working them nearly dry—not too much so—never too moist.

To succeed well be systematic, otherwise you will add color to thicken the oil or oil to thin the colors, and in case you have succeeded, this experimenting will require repeating and you are never sure of obtaining the desired result.

A practical "dropper" can be made by inserting a small stick through the cork, allowing it to extend to the bottom of the bottle. On removing the cork, the oil will flow from the stick in drops, making it easy to gauge the exact quantity required for mixing the colors.

All details in china painting, no matter how small, are worthy of consideration.

Keep a memorandum of your success and failures, to which you can refer in emergency with greater confidence, it being your own actual experience, with its trials, and the final success, which has secured to you the independance of working alone, untrameled by doubt. It is then china painting becomes a source of pleasure and a pleasant recreation.



Brushes.

The number of brushes and sizes will depend upon the work in hand. Shaders, Nos. 4 to 8, will include all sizes for painting. There should always be a liberal supply, as it is not advisable to stop painting in order to prepare brushes every time a different tint is required.

The best are the French imported pencils, manufactured expressly for china painting. You will know them by the indentation which surrounds the quill, near the top, an extra precaution to prevent the brush from spreading and shedding hairs, which often disfigures the work, particularly in figure painting.

They are superior, have fine points, carry the color better, because they are elastic—this is important with china colors, which presents more or less resistance in proportion to the colors used, consequently the brush should be of a quality to hold its own.

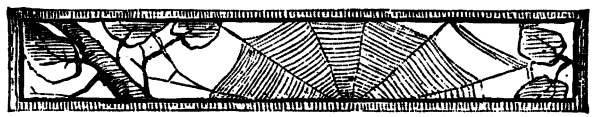
An inferior brush will always slight the work and can never be depended upon. Accustom yourself to large size brushes, when it is practical. A little experience will soon convince you how easily

a broad, flat, even tint can be obtained; while with the same brush, nicely pointed on your palette, you are able to produce the finer touches. Place a handle in each one and hold the brush as far as possible from the point, to secure perfect freedom in working. You will gain much by making experiments and loose nothing—try it.

Before putting brushes away, they must be carefully cleaned with either turpentine or alcohol, thoroughly dried, then dipped in oil (which keeps them pliable), smoothed to a point and placed out of the dust, always allowing for the full length of the brushes without crowding them. With proper care, a good brush will last a long time.

Important precaution. After cleaning brushes in turpentine always dip them in the fat, or tinting oil, before using them with color. Stipplers should be thoroughly dried before applying them to color. The deer-foot stippler can be more easily cleaned by striking it against the table, to force the turpentine to the surface. If left in the brushes it will cause the color to spread.





Suggestions, with Hints and Cautions.

The most uniform light can better be obtained from a window facing north. Place yourself in position so as to receive the light from the left, as you will find it less fatiguing to the eyes.

The hardness of effect so often observed in china painting can frequently be attributed to the injudicious use of small brushes, and working in a room filled with bright sunlight.

Always have in mind the effect you are trying to produce when the article is completed. This will cause you to be more exacting and cautious with your painting. Success depends very much upon deciding what is required, and doing it to the best of your ability.

The shadow tints are only intended to deepen the foundation color, without loosing it entirely, and should not be laid on too heavy, as they darken in firing.

High lights. The white china is often substituted, while it is preferable to apply a thin delicate wash of the local tint (this does not refer to white flowers) to keep the painting more uniform, and also hide the glaze of the china.

The mixing of white with colors often produces a chalky effect after firing, and is not recommended.

For high lights use Aufsetzweis' Relief, to be reserved for the last firing. This precaution will apply to all enamel and jewel work.

Flux unites the colors with the glaze of the ware. If you can depend upon rose-color heat in firing, which brings carmines and gold to perfection, then it is not necessary to flux colors, with only a few exceptions, unless the painting colors are required for backgrounds, upon French and German china, particularly La Croix carmine, Nos. 1 and 2, capucine red, carnation, deep red-brown, olive green, brown-green, apple green, and pearl gray.

The proportion of flux necessary is one-fourth of any quantity and thoroughly mixed with the colors; while, with the soft paste English ware, fluxing is not necessary. It lightens the colors, and, if not cautiously used, it will weaken and destroy their brilliancy.

In case the colors come from the kiln dull and without a glaze, they can be restored by mixing one part of flux very thoroughly with three parts of color, diluting with fresh turpentine; then apply a thin delicate wash over the design (with corresponding tints), using care not to go beyond the limit of the painting, as the slightest variation will manifest itself upon the plain ware.

If moisture in the kiln has produced the baked, unglazed appearance to the colors, so detrimental

to a finished piece of work, it is useless to fire it again, for the glaze has departed for ever.

The term Glazing implys the most fusible colors reduced to transparency with mediums or flux, and quickly applied over the tints to heighten their brilliancy in firing. The under-colors must be without any moisture before the glazing is attempted.

Palette Knives should be about three and a-half inches long, highly-tempered, and not too flexible. Horn knives are indispensable for mixing gold, white, relief paste, carmines, purples, violets and blues. Those with a knife edge soon warp and break easily; neither will you select one that will not bend to the touch.

Erasing Point.—A useful little instrument for removing particles of dust from the painting.

Alcohol Lamp will expedite the process of drying the colors. You are cautioned against holding the ware too long in one place; keep it moving constantly and cool slowly to prevent cracking. However, you do not improve your colors by this rapid process, and, unless time is pressing, let your china dry by exposure to the atmosphere only. A mixture of alcohol and turpentine will destroy your colors. Keep them separated, each bottle corked.

A small Rest, made of wood, 18 inches long, 1½ inches wide, supported at each end with blocks high enough to admit of a plaque underneath, will be found a useful addition to a "working out-

fit," particularly when the hand is unsteady while painting or gilding.

Pumice Stone removes roughness after firing. By first placing the stone in water, then with a circular motion gently grind the decoration until it feels smooth to the touch. You can easily abuse this process and destroy your painting, if every stage of the work is not carefully watched, and a sufficient quantity of water used to keep the stone from scratching. Select one having a fine even grain and a flat surface on one side at least. It should never come in contact with gold, or be used after the last firing.

Hydrofluoric Acid is used in factories for removing color from china, and also to prepare it for raised designs (called etching on gold). Its fumes are so destructive to the glaze of the ware, it is necessary to dip the article into paraffine; when cool expose only the decoration or part to be taken out. The acid comes in gutta-percha bottles. Its eating propensities compel this precaution. It is applied to the ware with small tapered sticks; if the surface is large, wrap them with two layers of soft cotton cloth well secured. Allow the water to flow over it often during the process, to enable you to see how the work is progressing. Keep the bottled corked, as its pernicious fumes are poisonous; and do not allow the acid to get upon your fingers, the pain will be extreme—wear gloves.

While amateurs are ambitious to undertake everything pertaining to china painting, they

should leave this branch to professional decorators, and it will be more economical and satisfactory in the end, to correct errors by duplicating the china and redecorate it.

The terms used to express the two degrees of heat required for over-glaze painting are: "Rose color," for gold, carmines and purple; "Regular kiln," a cherry heat that glazes all other colors, if the kiln fires with an even temperature.

A touch of ruby purple, mixed with the carmines for the center of roses and deep shading, softens the pink, and is not as liable to change color in firing.

After applying relief paste, dry it in a moderately heated oven or over an alcohol lamp. If it remains firm, it is ready for firing. If the paste spreads (from using too much oil) scrape it off and apply again.

A broken, irregular paste line can be improved, *before firing*, by smoothing it over with a small tracer, slightly moistened with turpentine.

Gold applied over Relief Paste can be highly polished by using an agate burnisher cautiously.

If there is any difficulty in taking off the screw tops from the La Croix tubes, hold them over a lighted match until heated, and remove them at once.



Preliminary to China Firing.

Even with a thorough knowledge of every requisite necessary to make it a success, it is not a sufficient guarantee against occasional failures and many disappointments.

You may be courageous with your brush and colors, attempting difficult subjects for decoration withal, when the ware is enclosed for the final test by fire, your anxiety begins, lasting until the china is drawn from the kiln, and *every* piece is carefully inspected.

The convenience and cleanliness of gas kilns cannot be over-estimated: always ready and easily managed, the various sizes and prices making it possible for all amateurs to do their own firing, which will have a tendency to encourage many experiments, resulting in more rapid advancement in the art.

Many useful hints upon the subject, and the temperature required for the different colors, will be fully treated upon in the following chapters, and should be considered thoroughly before attempting the responsibility of firing.

Colors and gold must be free from dust and perfectly dry before placing them in the kiln. If a brown discoloration appears, caused by drying in the oven or over an alcohol lamp, it will disappear in the firing.

In your solicitude to have the decoration free from blemishes, do not forget to look at the back of your plate to discover, possibly, a paper label, the dealer's price-mark in ink, or spots of color, which should be removed and the surface left *scrupulously* clean before submitting it to the kiln.

If a background has been applied, and a gold edge is required, the color can be expeditiously removed by placing a soft cloth—one thickness—over the right thumb, and forcing the nail upon the ware, turning the plate with the left hand; if the color is moist, a clean, even edge will present itself with little difficulty. The same manipulation can be applied to cups and all edges where a narrow line is desired.

If the gold or colors have been wrapped in cotton, remove the lint by *rolling* instead of picking it off, with the finger slightly moistened. Avoid placing anything in the kiln that will endanger the success of your firing,

And, above all, dampness (where kilns are placed in poorly-ventilated cellars or basements) will prevent the colors from glazing, and nothing will escape its injurious effects.

Stacking the kiln requires, not only judgment, but considerable management, to have it full, yet

not over-crowded. Trays, plates, and large dishes should be fired in an upright position, with stilts between, to prevent touching, and not allowing the ware to rest against the iron pot, as it may produce discolorations resembling iron rust upon the surface.

All plates under nine inches can be safely piled with three stilts between each. Saucers, small trays, etc., can be arranged in the same manner, placing the colors requiring the strongest fire at the bottom; fill in the intervening spaces with small pieces, cups, vases, etc. If they are not edged with gold, place a small sauce-plate over them, and other pieces can be added with safety.

If a large vase or jardinier covers the lower part of the kiln, you can economize the space by filling it with small cups, trays, etc., using plenty of stilts, to separate them. If the edge is flat, place a plate upon the top, upon which other articles can be piled. Pitchers can be filled with butter-plates; a small bonbonnier can be fired within a larger one, and the covers placed on each. Every part of the kiln can be utilized in this way.

A Wisp Broom vigorously applied to the sides of the firing-pot and cover will protect the ware from the small particles of dust which are liable to settle upon the colors during the process of firing.

Never use a damp cloth for cleaning the kiln, particularly if you intend stacking and firing

immediately afterwards, as there is a risk of cracking the firing-pot, besides destroying the glazing qualities of your colors.

A few reasons why breakages occur: heating and cooling the kiln too rapidly; over-crowding the kiln; not using enough stilts to keep the plates, etc., from slipping and pressing against other pieces of china, which will either crack or break them,

Or by the closest calculation, a large dish or placque has been fitted into a small kiln, leaving no space for the expansion and contraction in firing; under these circumstances a breakage can generally be depended upon.

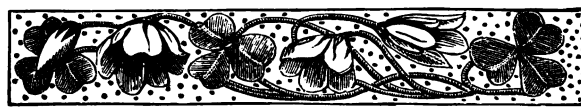
Particles of sand that cannot be observed through the glaze of the ware, but are embedded in the "bisquit," will cause a plate to separate in many pieces.

Firing large trays, etc. flat, instead of in an upright position, will cause disasters that can be guarded against.

To ascertain the exact temperature and firing qualities of your kiln, apply carmine to several pieces of broken bits of china, and in stacking, place these tests in the different parts of the kiln.

On examination of these pieces after firing, make a careful memorandum of the localities where the color has developed the most satisfactory, and you are ready for all future emergencies.

A similar test for gold will render valuable information for firing this precious metal properly.



La Croix Enamel Colors

AND THEIR COMBINATIONS

Are more or less effected by the iron in their composition, and to avoid mistakes, a classification of the colors will be given :

First—Colors without iron.—Blues, white, and the gold colors, which are carmines, purples and violet.

Second—Colors containing very little iron.—The greens and yellows (jonquil and mixing yellows are the exceptions, as they contain no iron.)

Third—Colors whose base are iron.—The flesh tints, browns, reds, violet of iron, yellow brown, ochre and black.

While the iron colors harmonize with each other, they destroy the purity of the gold colors when mixed with them.

A test tile or plate is very useful for reference, but should be reserved until you are able to combine colors with some degree of certainty, instead of having it an experiment only.

There is so much to be considered in the early stages of china painting, it would be difficult as

well as impossible to understand it all at once. Progress slowly, is a sure guide to success in all branches of art.

Set your palette with only the necessary colors, and when not in use cover it from the dust—an enemy to china painting. Study carefully the proportion of color to be applied to withstand the reducing effects of firing. Clear, dry weather is much better for painting and tinting, while dampness retards the work, making it almost impossible to lay the colors smoothly.

Some of the La Croix colors—particularly old blue—contain such a preponderance of oil, the color seems to have been forgotten altogether. It is better, however, to persevere until the solid color appears upon the palette. While it would seem disastrous to add more oil, is should be mixed in the regular way.

On opening the tubes, which seem pliable while the color appears encrusted upon the top, insert a pin to ascertain its exact condition before squeezing the tube out of shape, and causing it to open at the wrong end.

But if the color has become hardened, cut the tube open, remove its contents to a tile; add tinting, oil, and turpentine, and re-grind the color with the muller, then place it away from the dust.

The very reasonable prices asked for tube colors should discourage the above tedious process, confining it to the more expensive colors only.

By turning the tubes often, this result can in part, be obviated. Carefully observe all of these preliminary precautions as they will be of practical use to you.

The La Croix colors will now follow, and to "make assurance doubly sure" for amateurs, treatments—in addition to those which are given with the Matt colors—will be adapted to flowers, showing how they can be practically applied, and as colors present the greatest obtacles to china painters, details, and even a repetition of them, may be deemed necessary to more clearly explain their possibilities.

Dresden Aufsetzweis, in tubes or powder, is a more reliable mixing white than either of La Croix's Permanent or Chinese white, which are liable to chip off, and turn yellow in firing. It is used alone for touches on white flowers and draperies, and mixed with all light colors, to heighten their tones, in about the same proportion that white is used with oil colors. It will not take the place of enamel white for raised jewel effects, as it is opaque, and does not fire with a high transparent glaze. Do not use it in excess.

Light Sky Blue, highly fluxed.—An excellent color for glazing grays to mix with other blues which are poor in flux, such as victoria, ultramarine, and dark blue; a soft color for backgrounds.

Sky Blue.—A good mixing blue.

Dark, Victoria, and Deep Blue are all used for flower painting in connection with ruby purple.

Different tints of lavender and purple are secured for pansies, wisteria, lilacs, etc., using more or less of each color in proportion to the tints required.

Deep Ultramarine.—Flux one-fourth; a delicate blue for blue bells, forget-me-nots, etc., shading with common blue, with a touch of ruby purple added.

Old Blue, grounding color, requiring two layers and the same number of firings. Very effective for monochrome painting, afterwards to be treated with gold. The blues mix with purple, greens, browns, black and yellows, but not with reds. The lightest shade, sky blue; medium, victoria, darkest, deep blue. They require a regular kiln fire and change very little.

Browns are all soft colors.—They mix with all greens, black, purple, red and carmines, and not with yellows.

Yellow Brown, an excellent color for softening greens to be used as a foundation tint for leaves, and, as it fires lighter than ochre, it is preferable for flower painting. Very thinly applied over lavenders and blues softens them, and will not turn green in firing.

Brown No. 4, a deep, rich, reliable color; glazes highly. Desirable for monochrome painting. A good mixing color with dark green No. 7, for leaves and stems, and for solid coloring on handles, etc.

Sepia—poor in flux, add one-fourth to it. Used same as brown No. 4.

Deep Red Brown, for shading and finishing red flowers, is dark, rich in color, making a very complimentary background for gold decorations. If used delicately for ground laying, it should be fluxed one-fourth, otherwise it will rub off after firing. It glazes highly, if used full strength.

A pleasing combination in reds, and one which presents no difficulties for amateurs, is to lay on a grounding tint of carmelite, fluxed one-fourth, beginning with full strength at the bottom of the vase, graduating and loosing the tint at the top. When dry, sketch in a graceful open design of drooping palm leaves, which are laid in with carnation No. 2 for the foundation color and shaded with deep red-brown; the same color placed solidly upon the handle, and then outline the leaves and stems with brown No. 4. Give a strong fire. Afterwards treat the decoration with radiating dashes of hard gold. The background and handle with cloudings of gold, and the top of the vase to be edged with matt gold. Regular kiln fire.

Combination of reds for nasturtions.—The lightest foundation is orange red; shade with capucine, and finish with deep red-brown. For rich colorings: foundation—capucine; shading—deep red-brown. Centers—orange yellow, shaded with brown-green. Yellow flowers—silver yellow shaded with orange yellow, blended into carnation No. 2. Darkest blossoms—violet of iron shaded with orange yellow and brown-green No. 6.

Carmines are the test colors for all kilns. If short fired, they will develop into a yellow-red. If

fired too strong, a violet tint will be the result; and they will chip off, and turn yellow, if laid on too heavy.

English Pink is considered by decorators to be more reliable, while if carmines are properly treated and fired rose-color heat, will always be satisfactory.

Carmine No. 1 is used for the foundation color of pink flowers, shading with carmine No. 2. If thinly applied for backgrounds add one-fourth flux. They mix with blues, purple, black, greens and mixing yellow.

Grays are all poor in flux and require one-fourth, or they can be glazed with other colors.

Light Gray, No. 1 will not mix with colors and is a good shading gray for very white flowers: Easter lilies, lily of the valley, etc., but not to be used over pink or yellows. Gray No. 2, a darker shade of gray.

Pearl Gray.—Soft grounding gray cannot be used in flower painting. Equal parts of pearl and neutral gray, adding a touch of chrome green—a good flesh gray is obtained.

Neutral Gray.—A mixing gray, and is the only gray that mixes with all blues. It combines with all other colors, excepting yellows and reds. It is the darkest gray and is very useful in marine painting, and for fish and sea weeds in combination with sky-blue.

A thin wash of brown or olive green, over purple flowers, produces a soft gray.

Dark Green No. 7, delicately applied over red flowers softens their color into gray.

A beautiful Silver Gray, useful in fish painting, is composed of three parts of sky blue, to one part of neutral gray.

The Shading Gray, for pink and white flowers, are equal proportions of apple green and carmine No. 2, mixed thoroughly into a soft gray, and applied delicately.

Gray Shading for yellow flowers.—Two parts of yellow-brown, one part of brown-green No. 6, with only a touch of ruby purple, thoroughly mixed. This is the only reliable combination for grays that will stand on yellows and not fire off. Grays lose their strength in firing, and should be applied strongly. Regular kiln fire.

Silver Yellow, medium shade.—Used for fruit painting and yellow flowers.

Ivory Yellow.—Soft tint for grounding, if used very thinly. Fire only once, as it is liable to darken. It is a good glazing yellow for skies, fruit and landscape.

Jonquil Yellow.—A good mixing yellow with all light greens. An excellent foundation color for chrysanthemums, first shading silver yellow, second shading orange yellow.

Yellow for Mixing.—Used to lighten greens and for glazing carmines, to warm and soften them, applied very thinly. Will not mix with reds.

Orange Yellow.—Hard, strong color. If laid too heavy will scale in firing. Mixes with reds and carnations to obtain the rich colorings in nas-

turtions, with browns and ochre, but not with greens, as it inclines them to brown.

Dark Ochre, for Landscape and animal painting.

Yellow Ochre.—Used for backgrounds; mixes with greens, browns and purple. The lightest shade of yellow is jonquil; medium, silver yellow; darkest, orange yellow. For outlining flowers with this combination, use brown No. 4, with a touch of ruby purple added. Regular kiln fire.

Ruby Purple.—Strong color, and excellent for strengthening greens for shading, also for mixing. Lavender tints are secured, by taking one part of ruby purple, three parts of victoria blue, with one part of flux, well mixed. Vary the proportion according to the shade required. Ruby purple should be laid very thinly for grounding, and a strong firing will bring it out a rich crimson color. If a darker tint is desired, give two layers and fire twice.

Purple No. 2.—A very soft, pretty color for flower painting, not brilliant. Regular kiln fire.

Capucine Red is the richest and most beautiful of all the reds. A satisfactory color in every particular. Fires with a high gloss, and is used as a foundation color for poppies, trumpet blossoms, geraniums, etc. Its shading color is deep red-brown. Gray shading—a thin wash of dark green No. 7, laid over the colors very delicately. If used for backgrounds flux one-fourth when a delicate tint is required, which should not be added if the color is used with full strength. It combines with orange yellow, for nasturtions.

Carnations are a pink-red in color and sometimes substituted for carmines. They cannot be used for the pure delicate pink seen in wild roses, yet, for many flowers, they will be found reliable, as they change very little in firing. If laid very thin for light effects in painting and grounding, add one-fourth flux, otherwise they will rub off. For flesh tints, add a touch of ivory yellow to carnation No. 2.

For Poppies: foundation—carnation No. 2, when perfectly dry, shade with orange red, and deep red-brown for deepest shadows. For gray effects—a thin wash of dark green No. 7. The centers—apple green, and the markings—violet of iron. After firing strengthen the carnation with capucine red, the shadows with deep red-brown.

For Pink Flowers, use carnation No. 1 for foundation color, shading with carnation No. 2. They mix with browns and ochre and all reds, ivory yellow, orange yellow, but not with mixing yellow.

Orange Red.—Very rich and brilliant, used in fruit painting, for red nasturtions, chrysanthemums, and trumpet blossoms, etc. Shade with capucine red; second shading—deep red-brown. Vary the tints and use the orange red cautiously.

Japan Rose.—A soft pink grounding color. Apply delicately. The lightest color in reds is orange red; medium, capucine; darkest, deep red-brown. Regular kiln fire.

Ivory Black.—A strong shading color, and also for mixing. German black, deeper in tone and fires with a higher glaze for solid handles, and, for

outlining on gold, is more reliable. If over-fired, comes from the kiln blue. If not fired enough, like all other colors, is unsatisfactory, and the glaze will be difficult to restore. Mixes with all dark colors, and for strong touches.

Greens change very little in firing and are the first colors to glaze, requiring regular kiln fire.

Grass Green.—A good glazing color for greens, and combines with mixing yellow for leaves.

Brown-Green.—Shading green for leaves.

Dark Green No. 7.—The darkest green for shading dark leaves.

Deep Blue-Green.—A very useful color and not green, as its name implies, but a pretty, soft blue, for forget-me-nots and blue flowers. It modifies greens and is used in distant effects in foliage, for the soft color on the underside of rose leaves, and, if used delicately, for backgrounds; flux it one-fourth. It mixes with all greens and carmines and glazes highly.

Emerald Stone Green.—A strong body-color green for heavy effects in pond-lily leaves, etc. Will not mix with yellows, but with all strong greens, such as dark green No. 7, olive green, brown-green No. 6, and duck green, producing a shading green which enriches green leaves.

Chrome Green B.—A very decided green, used for strong touches, and is modified with other greens, browns, and ochre.

Deep Chrome Green.—Useful in painting leaves, for glazing fish and fruit, producing transparency over blues, purple, browns and black.

Apple Green.—Excellent mixing green with silver yellow and jonquil yellow for yellow greens; with carmine No. 2 and deep chrome green for distant leaves in flower painting; with carmine and purple for hazy atmospheric effects in landscape; for the green center of flowers; with carmine No. 2 for gray shading; for pink and white flowers, and mixes with all greens—the lightest apple green, medium chrome green; darkest, dark green No. 7.

Violet of Iron.—An indispensible color for shading carnations, for tips of leaves, for rose stems and thorns, and for Autumn leaves. It can be blended with greens but not over them. Excellent for outlining, and very useful for seaweeds. Combines with dark brown, reds, black and purple.

Gray Violet of Iron for landscape painting. It is a pinkish gray for distant foliage.

Deep Violet of Gold, in combination with ruby purple and victoria blue, produces the rich, dark velvety coloring in pansies; for violet tints, mix with blue, and apply delicately. Mixes with purple, greens, brown and black.

The Grounding Colors, if applied delicately, require fluxing one-fourth. They are all pleasing in color, and the selection will depend upon the decoration to be applied over them.

Pink Clovers.—Apply a delicate wash of ruby purple for the first painting, shade and trace the markings with the same, full strength.

Light Shading Tint.—A mixture of yellow ochre and ivory yellow.

Gray Shading.—Carmine No. 2 and apple green, equal parts.

Green Touches.—Chrome green B. When dry, glaze the entire blossom with carmine No. 2, adding a touch of apple green.

Distant Clover.—Foundation—a mixture of yellow ochre and carmine No. 2, shading with apple green and carmine No. 2. For the purple effect on the blossom, mix victoria blue, ruby purple and apple green into a soft gray, shading with the same very delicately.

White Clovers.—Foundation—mixing yellow and apple green, strengthened into yellow ochre and violet of iron, on the lower leaves, and shading with apple green and carmine No. 2, leaving the china for the lights. Leaves—chrome green B, with a little yellow-brown, leaving the center marking plain china. Light leaves—grass green and mixing yellow. Olive leaves—brown-green No. 6, shading with the same, adding dark green No. 7. When dry, apply a thin wash of apple green over the dark leaves, adding mixing yellow for the lighter leaves. This glazing tint to be used for filling in the marking left in each leaf; finish with touches of Aufsetzweis for the high lights.

Morning Glorys offer such a variety of beautiful colorings, a treatment of them will be found very useful for combinations.

Crimson Flower.—Foundation—purple No. 2, very delicately applied, shaded with ruby purple, which is also used for the stripes. Center—mixing yellow, shaded with brown-green.

Pink.—Thin wash of carmine No. 1, shaded with two parts of carmine No. 2 to one part of No. 1. Stripes—carmine No. 2. Gray shading—equal parts of apple green and carmine No. 2. Centers are all treated the same.

Blue.—Delicate wash of victoria blue. First shading—one part of ruby purple with three parts of victoria blue. Second shading—brown-green. Stripes—victoria blue.

Lavender.—A pale wash of three parts of victoria blue to one of ruby purple. Shading and stripes with the same, full strength. Last shading next to the center—brown-green.

Light Distant Blue Flowers.—Same colors as above for foundation, very delicately applied, shading with apple green and carmine No. 2.

White Flowers.—A very thin wash of mixing yellow on the shadow side of the flower. Stripes and foundation—carmine No. 1, shaded with No. 2. Gray shading for flower—carmine No. 2 and apple green, equal parts, which is laid on after the foundation colors are dry (this applies to all shading). High lights—Aufsetzweis relief. Buds treated in the same manner.

Leaves.—Foundation—grass green, adding very little mixing yellow with it, and applied very thinly. First shading—three parts of brown-green No. 6 with one part of dark green No. 7. Second

shading—same colors, only applied full strength. Light leaves—same color for foundation tint, shading with apple green and carmine No. 2. Large stem—violet of iron, with the addition of a little brown-green No. 6 and dark green No. 7 added, shading with the same. Under part of the large leaves—mixing yellow and grass green; upper part—dark green No. 7, with chrome green B, mixed, and shaded with dark green No. 7 and brown-green No. 6. Delicate gray distant leaves—apple green and yellow-brown.

Violets.—Two parts deep blue-green to one of carmine No. 2, mixed until a bluish purple is obtained, and *applied thinly* for the foundation color; or light violet-of-gold with deep blue-green mixed produces a soft lilac. The shading with either combination is deep blue, three parts to one of ruby purple. Radiating strokes for dark flowers, ivory black and deep purple for the lighter ones; wipe out small center, apply mixing yellow with touches of orange-red on the edges.

Wild Roses.—Foundation—delicate wash of carmine No. 2 blended into ivory yellow toward the center; shade with warm gray, adding to it, for the deeper tones, a touch of dark green No. 7; centers a flat wash of mixing yellow, shading with brown-green No. 6; the seeds are joined to the center with yellow-brown, and for accented sharp touches, use brown No. 4; enamel will greatly improve the effects of the high lights, used sparingly, and for the last firing. See page 71 for treatment for leaves.



Directions for Mixing

THE OSGOOD ART SCHOOL ROYAL WORCESTER, MATT AND BRONZE COLORS.

The colors used for Royal Worcester and Doulton decorations are specially manufactured for the purpose. The matt colors fire without a glaze. The bronze colors are semi-glazed, like the Doulton decorations. They work well together.

The number of colors required will, of course, depend upon the ability of the china painter. It is needless to say, that the progress and success of the work can be more rapidly accomplished by having, in the beginning, all necessary materials.

The following limited list of colors, with their combinations, will comprise a complete palette for producing all of the beautiful coloring found on the Royal Worcester and Doulton decorations :

Matt Dry Red (dark red).—A shading red. Mixes with reds but not with other colors.

Matt Purple.—A beautiful color. By dilution very delicate tones are obtained. Add a little light blue for the different tints of lavender. It will mix with blues, browns, grays, greens. Shade with same, full strength.

Matt Violet.—Shade with purple. For darkest shadows use yellow-brown and bronze green No. 1. Mixes the same as purple.

Matt Light Blue.—Always use separate brushes for blues, to secure the purity of color. Mixes with purple, brown, black, deep blue, and pink.

Matt Turquois Blue.—Is used for flower painting. Mixes with the same colors as light blue.

Matt Paris Blue.—A beautiful grounding color for raised gold work.

Matt Deep Blue.—Used generally for shading.

Matt Olive Green.—A strong excellent mixing green for flower painting. Mixes with purples, browns, grays ; will shade with reds and browns.

Matt Blue-Green.—Is used for distant flowers and foliage, and should be transparently painted if applied to tinted grounds. Mixes with the same colors as olive green.

Matt Dark Green.—Mixes with all shades of brown, by which the russet effects of warm greens are obtained.

Matt Light Yellow-Green.—A good local wash for leaves. Mixes with lemon yellow for light green, and yellow brown for soft olive tints.

Matt Yellow-Brown.—Same as La Croix in color. Mixes with pinks, grays, greens, and purples.

Matt Brown (dark brown).—Mixes with all colors, excepting dark green and black.

Matt Lemon Yellow.—It is the lightest of yellows, and shades with gold yellow. Mixes with light green.

Matt Gold Yellow.—Used for shading ; will not mix with other colors.

The Bronze Colors mix and shade with matt colors, used delicately, for painting, and full strength for grounding.

Matt Bronze Pink.—Mixes the same as matt pink.

Matt Bronze Salmon.—Royal Worcester cream, grounding color only.

Matt Bronze Lavender.—Mixes with pink and light blue.

Matt Bronze Terra Cotta.—An excellent local wash for flowers and leaves. Mixes with bronze pink.

Matt Bronze Celeste.—For distant and delicate effects it is very useful. Mixes with yellow-brown, bronze pink, grays and browns.

Matt Bronze Brown.—Mixes with celadon, terra cotta and lavender, pink, purple, warm and neutral gray, and all greens; shades into vellum, and produces the old ivory effect as seen on Doulton.

Matt Bronze Green Nos. 1 and 2.—Mixes with all greens for foliage, and used for shading leaves, same as brown-green No. 6 in La Croix's. Also an excellent grounding color for raised gold work.

Bronze Green No. 1 compares so favorably with the genuine metal bronzes, even when the two are used upon the same piece of china, makes it a valuable acquisition to the color box, to be substituted for bronze effects on handles, etc. After firing, traceries or cloudings of unfluxed gold can be applied over it. If used for bands, outline or dot pretty designs upon them with relief paste, then fired, afterwards to be covered with matt gold.

Matt Bronze Water Green.—Is a beautiful transparent green. Mixes with celadon, bronze green and yellow-brown.

Bronze Yellow.—One of the most useful colors for modifying greens for leaves ; it is serviceable for flower painting and landscapes. Mixes with all greens.

Matt Bronze Vellum.—Used for painting and grounding.

The Royal Worcester Grounding Colors can also be used for painting, and, as they are semi-glazed, are not so easily defaced when applied to table ware in frequent use. Matt colors can be glazed into durability, by adding one part of either matt or La Croix flux, mixing thoroughly with four parts of color. They will still retain their opaque, soft effect, which can never be confounded with the high glaze of the tube colors, and will add another variety to the decoration of china. They will all mix with La Croix colors, which glazes them to a certain degree, and then applied delicately over the vellum ground tint produces still another change. If outlined with paste and gold, two firings are necessary. The La Croix colors used *pure and simple* over delicate Royal Worcester ground tints gives a third variety, all differing in effect ; and, in case you paint upon a ground tint not previously fired, make due allowance for the absorption of the colors, and the reducing effect caused by firing. They all require a strong fire.

All of these colors can be used for painting on glass with the addition of one-fourth of matt or La Croix flux to three-fourths of color.



Flowers and Birds,

WITH ROYAL WORCESTER, MATT, BRONZE AND LA CROIX COLORS.

To render the mixing of colors more explicit and their application as comprehensive as possible, the following treatments, adapted from the Osgood Art School studies, are given, beginning with the illustration, "Orchids." The black and white design conveys only in part the real beauty of this plate, as it appears in colors, with its soft, gradu-

ated ground tints, from vellum into golden buff—on the right—forming a complimentary background for the pink flowers, with their rich green leaves.

DIRECTIONS FOR TREATMENT.

Sketch the design with India ink, using a fine brush for a delicate and distinct outline.

Background.—Bronze golden buff, graduated towards the center with bronze ivory vellum, both mixed thoroughly with tinting oil, then thin with turpentine to a consistency that flows readily from the brush in working. The painting colors are mixed in the same manner. Apply the tint to the ware in broad, flat washes. Blend with a deer-foot stippler, or use a dabber made of soft linen with cotton enclosed.

When dry, cover the design (visible through the tint) with a thin coating of tar paste. After a few minutes remove the paste and color with small wads of cotton (changing them often), leaving the design in white preparatory for painting.

Blossoms.—Lay in the three upper petals very delicately with bronze pink, extending the color down to the green tint, which is matt yellow-green, shaded with bronze green No. 1, using bronze green No. 2 for deep shadows. Shade the petals with matt purple, using the color full strength for deepest shadows; and streaked with with bronze pink. The pocket and stem are washed in with matt flesh red, shading with matt purple and matt brown.

Leaves.—Foundation—matt light yellow-green combined with matt lemon yellow, shaded with matt dark green and matt yellow-brown mixed.

The brown effects in the leaves are obtained by mixing matt light yellow-green, matt yellow-brown and matt brown in proportion to the tint required; shaded with matt dark green and bronze green No 2 mixed, with touches of bronze green No. 1. Grasses—bronze celadon and bronze lavender mixed; painted upon the vellum ground.

When thoroughly dry, outline the design (excepting distant effects) with relief paste.

Edge the ware with matt gold, which is now ready for the first fire (rose-color heat).

Blend and stipple the ground tint, and trace the distant flowers and leaves with hard gold. Cover the paste solidly, and retouch the edge with matt gold.

Strengthen the colors if necessary. Fire the second time. Polish with a glass brush.

The flowers and leaves only will be treated upon in the following studies. The backgrounds are laid in with ivory vellum, while some of them can be graduated either into golden buff, bronze pink or bronze water green.

ORCHID.—In La Croix Colors.

Background.—Chinese yellow.

Orchid.—Local tint—carmine No. 1, laid very delicately and softened with carmine No. 2 and apple green mixed, graduated into mixing yellow and grass green; shaded with carmine No. 2 and

apple green ; shadows and stripes—ruby purple laid lightly.

Centers.—Carmine No. 1, deepened with ruby purple and mixing yellow, full strength for shadows.

The Center of the Pocket.—Brown-green No. 6 and dark green No. 7.

Green Leaves. — Foundation — blue-green and chrome green B, shaded with brown-green and dark green No. 7.

Light Leaves.—Grass green and mixing yellow, shaded with brown-green No. 6 and dark green No. 7.

Distant Flowers are ruby purple and brown-green No. 6 mixed.

PERIWINKLE.

Flowers.—Foundation tint—matt turquois blue shaded with bronze pink ; centers—bronze orange ; radiating lines—bronze pink. Buds treated in the same manner.

Lower Flower laid in with turquois blue, with shadings of bronze pink and matt purple.

Light Leaves.—Lemon yellow and light yellow-green, mixed ; shaded with matt dark green.

Dark Leaves.—Matt blue-green and matt dark green, mixed, shaded with bronze green No. 1. The delicate tints in these leaves are obtained by more or less dilution of the colors and varying the quantity of each shade in mixing, which the colored example plainly indicates.

Stems. — Bronze green, shaded with bronze brown.

Small and Distant Flowers are painted upon the vellum surface with bronze lavender and bronze celadon.

PERIWINKLE.—In La Croix Colors.

Background.—Chinese yellow.

Flowers.—Foundation—victoria blue, very thinly laid in and shaded with ruby purple.

The green effect is obtained with a thin wash of mixing yellow over the blue.

Lower Flower.—Ruby purple and victoria blue, shaded with the same.

Leaves. — Foundation — blue-green and dark green No. 7, graduated into apple green and mixing yellow; for shading use brown-green No. 6 and chrome green B mixed.

Yellow Leaves.—Mixing yellow and grass green, shaded with brown-green No. 6 and dark green No. 7.

Stems.—Brown-green No. 6, with brown No. 4 for shading.

CHRYSANTHEMUMS.

Flowers and Buds.—For the lightest tints use bronze yellow, toned with bronze orange towards the root of the petals. Bronze pink, full strength, for shading, extending a thin wash over the local tint with the same color, to the tip of the petals, producing a warm, transparent shadow tint. For extreme high lights, apply white enamel.

Distant stems on the left.—Bronze lavender mixed with blue-green. The same combination for lav-

ender leaves. Stems on the right and centre—light yellow-green, touched with bronze green and bronze pink.

Leaves.—Light yellow-green for local tint. A thin wash of yellow-brown for the shadow side. Shaded with bronze green.

Distant Flowers and Leaves are painted very delicately with matt blue-green upon the vellum ground. Use bronze water green for soft blue-green leaves.

When thoroughly dry, outline the design (excepting distant effects) with relief paste.

CHRYSANTHEMUMS.—In La Croix Colors.

Background.—Chinese yellow.

Foundation tint for flowers and buds — mixing yellow, blended carefully to the edges of the pink, which is carmine No. 1, laid direct upon the china. After the tints are dry, soften them with a combination of three parts yellow-brown, two of brown-green No. 6, and a touch of ruby purple, applied with a light quick stroke with a brush over the color (not into it).

The centers are carmine No. 2.

Buds treated in the same manner.

Stems.—Violet of iron.

Leaves.—Dark green No. 7, shaded with grass green and mixing yellow.

Second Shading.—Brown-green No. 6.

Light Stem on the left.—Victoria blue and ruby purple, very delicately applied.

Distant Flowers.—Deep ultramarine blue laid upon the ground tint.

LOTUS BLOSSOMS AND LEAVES FOR TRAY.

Blossoms.—Foundation tint—bronze terra cotta, deepened with bronze pink towards the center, using bronze pink for the turned edges and streaked effect on the petals. For extreme high lights apply Aufsetzweis relief. Center—bronze yellow and matt black.

Buds.—Bronze pink and terra cotta mixed, and shaded with bronze pink.

Large Leaf.—Laid in with bronze celeste; full strength of the same color applied heavy on the edges; towards the center—bronze orange mixed with bronze celeste, graduated into bronze pink and bronze orange, as indicated by the colored example to the center, which is matt purple. The touches are bronze pink.

Upper Shadow Leaf.—Bronze lavander mixed with bronze celadon, laid in very delicately for the foundation tint; bronze pink for the tip of the leaf; the centre—matt purple; for deep shadow on the left of the leaf—mix bronze lavender, bronze pink, and bronze celadon.

Lower Leaf.—Bronze green No. 1, with touches of bronze pink and bronze lavender.

Stems.—Bronze lavender and celadon mixed.

Small Distant Flowers are painted on the surface of the vellum ground, very delicately, with bronze lavender; center of flowers—bronze yellow, touched with bronze orange.

LOTUS BLOSSOMS AND LEAVES FOR A TRAY.

IN LA CROIX COLORS.

Background.—Chinese yellow.

Large Leaf.—Victoria blue on the edge and blended into ivory yellow, and yellow ochre on the left.

On the Right.—Local tint—carmine No. 1, using carmine No. 2 for shading. Between the blue and pink lay in a gray tint composed of carmine No. 2 and apple green.

Gray Leaf.—Carmine No. 1 and apple green, shaded with the same. Outside edge—carmine No. 2.

Lower Leaf.—Apple green and brown-green No. 6, blended into carmine No. 1. The lavender effects are obtained with victoria blue and ruby purple

Flowers.—Foundation tint—yellow ochre and carmine No. 1, shaded and streaked with carmine No. 2.

Center.—Mixing yellow and ivory black.

Distant Flowers.—Blue-green, painted delicately upon the ground tint.

LOTUS BUDS AND LEAVES FOR A PLATE.

Upper and Lower Buds.—Foundation—bronze terra cotta, shaded strongly with bronze pink. Middle bud—bronze celeste and bronze lavender, with touches of bronze pink.

Blossoms.—Inside of petals—bronze terra cotta. Outside and standing petals—bronze pink, shaded

and streaked with the same. Centers—bronze orange. Stamens—relief paste for gold.

Large Leaf.—Foundation of shadow side—bronze terra cotta, deepening to bronze lavender at the tips, with touches of bronze green No. 1, matt purple and matt yellow-brown. Right side of leaf—bronze lavender, graduated to the center with bronze water green and bronze orange, shaded with matt purple and bronze green No. 1. Bronze coral red surrounds the center, which is matt purple. Soften the varying colors of the leaves into each other, without overlaying them, to secure purity of tints.

Lower Leaf.—Local tint—terra cotta, shaded with bronze lavender and bronze water green.

Leaf on the Left.—Foundation—bronze water green and bronze lavender, with touches of bronze green No. 1. Under side of leaf—bronze water green, shaded with bronze green; matt purple center. Distant flowers and leaves are painted very delicately with matt blue-green upon the vellum ground. Centers—bronze orange. Stems—bronze water green.

LOTUS BUDS AND LEAVES FOR A PLATE.

In La Croix Colors.

Flowers.—Carmine No. 1, shaded with carmine No. 2 for the outside, and ivory yellow for the inside of petals.

Large Leaf.—A mixture of victoria blue and ruby purple on the left, deepened into deep chrome green.

Upper Side.—Ivory yellow and yellow ochre, shaded with purple.

Top Edge.—Yellow ochre mixed with very little ruby purple, and shaded with brown-green No. 6 and ruby purple, blended into ivory yellow towards the center, which is coral red.

Stems.—Ruby purple and victoria blue for the lavender tint.

Lower Leaves.—Apple green and brown-green mixed and blended into carmine No. 1. Shadow tint—apple green and carmine No. 2.

BIRDS AND BRANCHES.

Birds.—Matt yellow-brown for the foundation tint of the breast, back, and around the eyes, shaded with matt flesh red. A combination of matt warm gray and matt brown is delicately laid in for the head, wings and tail, shading with matt brown and matt black, same as colored example. Bronze lavender for the high lights on the head, wings and eyes. For the last shading on the neck, top of wing, and breast, use matt warm gray.

Flowers.—Bronze yellow touched with bronze orange, and bronze pink centers.

Leaves.—Matt yellow-green shaded with bronze green No. 1.

Large Stems.—Matt yellow-brown shaded with matt brown. Stem on the right—bronze lavender and bronze celadon mixed, and painted upon the bronze vellum background, using the same for distant leaves.

BIRDS AND BRANCHES.—In La Croix Colors.

Birds.—Breast—carnation No. 2, shaded with carnation No. 1. Wings and tail laid in with brown No. 4 and ivory black mixed. Lavender effects are produced with victoria blue and ruby purple. Eyes and bill are traced in ivory black.

Brown Stems.—Yellow ochre and carnation No. 1 mixed, and shaded with violet of iron.

Green Stems.—Grass green and mixing yellow, shaded with brown-green No. 6 and chrome green B. The same for leaves.

Flowers.—Jonquil yellow, shaded with silver yellow and yellow-brown; stencil out the centers and lay them in with carnation No. 2. Use white enamel for raising the lights.

Distant Leaves.—Apple green and carmine No. 2 mixed.

PURPLE CLEMATIS.

Flowers.—Foundation tint—bronze lavender, with the addition of very little bronze pink; first shading—bronze lavender; second shading—matt purple, using bronze pink for the dividing line of the petals.

Back of the Flowers.—Bronze celadon, shaded with bronze green No. 1.

Center of Flowers.—Matt light yellow-green, streaked with bronze pink.

Buds treated in the same manner.

Leaves are a combination of matt blue-green and matt dark green, shaded with bronze green No. 1.

Light Leaves and Tendrils. — Foundation—matt lemon yellow and matt light yellow-green mixed, and shaded with bronze green No. 1.

Stems. — Bronze celadon, shaded with bronze green No. 1, with touches of bronze pink.

Distant Leaves are painted upon the vellum background with bronze celadon mixed with bronze lavender.

PURPLE CLEMATIS.—In La Croix Colors.

Flowers.—Foundation—three parts of victoria blue to one of ruby purple, shading with the same—equal parts—and using ruby purple for the center lines of the petals.

Centers.—Grass green and mixing yellow.

Flower on the Left.—The same colors, treated more delicately.

Large Leaf.—Blue-green and chrome green B, shaded with brown-green No. 6 and dark green No. 7; under side of leaf—grass green and mixing yellow.

Distant Grasses.—Brown-green No. 6.

PEONIES CONVENTIONALIZED.

Flowers.—Bronze pink, shaded and streaked with full strength of the same color and washed over with bronze orange.

Yellow Flowers.—Bronze orange for foundation. Shadow tints—bronze pink (follow colored example).

Leaves on the Left.—Lightest tint—bronze lavender, deepened with matt purple for shadows; use bronze pink for strong touches.

Leaves on the Right, and also the lower leaves, are composed of bronze water green, shaded with matt purple.

Stems.—Bronze lavender and matt purple; gray stems—bronze celadon and bronze lavender.

Small Distant Flowers are painted on the surface of the vellum ground, very delicately, with bronze lavender; center of flowers—bronze yellow, touched with bronze orange.

PEONIES.—In La Croix Colors.

Background.—Chinese yellow, full strength towards the outside edges.

Pink Flowers.—Foundation tint of carmine No. 1; while moist blend it with yellow-brown. Shade with carmine No. 2 and apple green, mixed and laid over the local tint when dry.

For Deep Shadow and streaks use carmine No. 2, full strength.

Yellow Flowers.—Silver yellow, shaded and streaked with ruby purple.

Stems.—On the right—blue-green, with a touch of Carmine No. 2; shade with the same; finish with strong touches of carmine No. 2.

Lavender Leaves.—Three parts of victoria blue to one of ruby purple for the first tint and shaded with the same, equal parts, with touches of carmine No. 2.

Green Leaves.—Mixing yellow and apple green, shaded with brown green No. 6 and blue-green.

Distant Flowers.—Ruby purple and victoria blue, treated delicately on the surface of the ground tint.

PANSIES.

Pansies.—Foundation tint—matt lemon yellow.

First Shading.—Matt gold yellow. Take one part of matt purple to two parts of matt yellow-brown; mix them thoroughly for the second shading. The edges and strong touches on the petals are obtained with bronze pink.

The Centers are bronze yellow shaded with matt dark green. Radiating lines are matt purple.

Buds and Half-blown Flowers.—Treated in the same manner. Follow colored example for details in treatment.

Leaves.—Matt light yellow-green and matt lemon yellow combined, for the upper part, graduating into matt dark green, shaded with bronze green No. 1. Matt blue-green and matt dark green, mixed, for the darker leaves, shaded with bronze green No. 1.

Stems.—Matt light yellow-green and lemon yellow, with bronze green No. 1 for shading.

Distant Grasses are painted upon the surface of the vellum background tint with bronze celeste, very delicately.

PANSIES.—In La Croix Colors.

Background.—Chinese yellow.

Pansies.—Foundation tint—jonquil yellow, blended into ruby purple towards the outer edge of

petals, When dry, shade with silver yellow. Deep shadows—yellow-brown and ruby purple. The stripes are ruby purple laid over the colors when dry.

Centers.—Grass green and mixing yellow.

Buds on the Right, treated in the same manner.

Dark Petals.—Ruby purple, delicately laid in, with strong touches of ruby purple on the edge and centre stripes.

Leaves.—Dark blue-green and chrome green B mixed, and shaded with brown green No. 6 and chrome green B.

Light Leaves.—Grass green and mixing yellow; for shading use brown-green No. 6 and dark green No. 7.

The Same Colors are applied to the stems.

IRIS FOR TRAY.

Flowers.—Foundation tint, upper petals—bronze celeste shaded with bronze lavender.

Lower Petals.—Bronze lavender, strengthened with matt purple in the shadows.

Pollen.—Bronze yellow, with touches of bronze orange.

Brown Leaves and Buds are laid in with bronze brown, with the addition of very little bronze pink, using the same combination full strength for shading.

Green Leaves.—Upper foundation—matt blue-green and matt dark green mixed, to correspond with design, and graduated down into matt lemon yellow and matt yellow-green mixed; shadow

tints—bronze green No. 1, using the same for the stalks.

Distant Flowers are painted upon the vellum surface with bronze lavender and bronze celadon.

This Design is very effective in blue and gold, using matt deep blue delicately for the entire foundation tints; the same for shading, full strength.

IRIS.—In La Croix Colors.

Flowers.—Take four parts of victoria blue to one of ruby purple for the upper petals; add more ruby purple to deepen the tint for lower petals, using the same, full strength, for shading.

Pollen.—Silver yellow, shaded with orange yellow.

Deep Shadows.—A combination of yellow-brown and ruby purple.

Brown Buds and Leaves.—Foundation tint—carmine No. 2 mixed with yellow ochre and ruby purple, the same for shading, and painted upon the surface of the background.

Leaves.—Blue-green and chrome green B; first shading—grass green and mixing yellow; deep shadows—brown-green No. 6 and dark green No. 7.

GARDEN ANEMONE.

Pink Flowers and Buds.—Bronze pink, delicately wash in the same color; full strength for shadows. Mix matt black, matt light blue and matt purple for the foundation tint of the centers, and finish with strong touches of matt black.

Lower Flower.—Bronze vellum, thinly laid in, and matt lemon yellow softened into the foundation tint with a stippler ; follow colored example. The shading color is bronze celadon ; the center is treated as described above ; bronze pink and matt purple for the streaked effect on the petals, radiating from a matt lemon yellow center.

Distant Leaves. — Bronze celadon mixed with bronze lavender, painted delicately on the surface of the vellum ground.

Leaves and Stems are matt blue-green, matt yellow-green, matt dark green, and shaded with bronze green No. 1.

GARDEN ANEMONE.—In La Croix Colors.

Flowers.—Local tint—carmine No. 1 shaded with carmine No. 2, finished with a soft shadow tint composed of apple green and carmine No. 2.

Centers. — Violet of iron, shaded with ivory black.

Light Flowers.—Mixing yellow, utilizing the plain china for high lights ; shadows—apple green and carmine No. 2 ; ruby purple for streaked effect, and finished with sky blue.

Leaves. — Grass green mixing yellow, brown-green No. 6, and dark green No. 7 ; equal parts for shading.

Stems.—Grass green and mixing yellow, shaded with brown-green No. 6 and chrome green B mixed.

The Lower Flower has a thin wash of sky blue over carmine No. 1, to produce the purple effect.

Distant Leaves.—Blue-green, lightly laid over the ground tint.

POPPIES.

Flowers and Buds.—Foundation tint—flesh red; first shading—brick red; deep shadows—matt red.

Centers.—Matt yellow-green and matt black.

Leaves.—Foundation—matt blue-green, modified with matt dark green, graduated into matt yellow green; shaded with bronze green No. 1. The same for stems.

Tall Grasses and Distant Leaves are painted upon the vellum background with bronze lavender and bronze celadon mixed.

When Thoroughly Dry, outline the design (excepting distant effects) with relief paste.

POPPIES.—In La Croix Colors.

Poppies.—Local tint—carnation No. 2; first shading—capucine red; second shading—deep red-brown; base of petals—victoria blue, with a touch of ruby purple.

Centers.—Grass green foundation, and violet of iron, with strong touches of ivory black.

Dark Leaves.—Blue-green, delicately laid in and shaded with chrome green B and brown-green No. 6.

Light Leaves.—Grass green and mixing yellow, shaded with brown green No. 6 and dark green No. 7 mixed.

Distant Leaves. — Painted upon the grounding tint—carmine No. 2 and apple green mixed.

CACTUS.

Flower.—Foundation tint—bronze pink, laid in very delicately; first shading—bronze pink; when dry apply a thin wash of bronze orange over the entire flower, excepting the center, which is bronze yellow shaded with bronze orange; second shading is composed of bronze pink, bronze orange and matt dark green mixed.

Buds treated in the same manner.

Stems are bronze brown and bronze pink mixed, and finished with strong touches of bronze pink.

Large Leaf. — Begin with matt flesh red, graduated into matt dark green and matt lemon yellow mixed for the foundation tints; shaded with bronze green No. 1.

Lower Leaf. — Matt blue-green and matt dark green, shaded with bronze green. Leaf on the right—matt dark green, matt yellow-green and bronze pink. Use bronze pink for the radiating points of leaves.

For Distant Leaves.—Bronze lavender and bronze celadon mixed, and painted delicately upon the surface of the vellum ground.

CACTUS.—In La Croix Colors.

Background.—Chinese yellow.

Blossom. — Foundation — carmine No. 1, and shaded with carmine No. 2 and apple green laid over the local tint when dry.

Centers.—Mixing yellow touched with orange yellow.

Large Leaf.—Upper part—violet of iron, worked into chrome green B and mixing yellow, and shaded with brown-green No. 6 and dark green No. 7 mixed, and blended with the brush.

Lower Leaves.—Blue-green and chrome green B for foundation, shaded with brown-green No. 6 and dark green No. 7 mixed.

Stems.—Violet of iron foundation; brown-green No. 6 and dark green No. 7 for shading; dark touches—violet of iron.

Distant Leaves—Brown-green No. 6.

BIRDS AND BLOSSOMS.

Bird.—Tip of wings, tail, top of head, legs and feet—matt black. Upper part of wings and back—matt light blue and neutral gray; add matt white to heightened effects for lights. Breast—matt lemon yellow shaded with neutral gray.

Apple Blossoms and Buds.—Outside of petals—bronze pink, shaded with matt dark green and bronze pink. Inside of petals—ivory vellum, thinly laid, shaded to the center with matt warm gray. Stamens in relief paste.

Blue-Green Leaves.—Matt blue-green, modified with matt lemon yellow to soften the effect.

Light Yellow-Green Leaves.—Matt light yellow-green and matt lemon yellow. Shadows—matt dark green and matt yellow-brown.

Stems.—Light yellow-green, shaded with matt brown.

APPLE BLOSSOMS AND BIRD.—In La Croix Colors.

Background.—Chinese yellow.

Stencil out the Flowers with tar paste, preparatory for painting.

Outside of Blossoms.—Carmine No. 1, blended delicately into mixing yellow towards the center; combine carmine No. 2 and apple green for the soft gray shading. Stamens—relief paste.

Leaves.—Dark blue-green and chrome green B mixed, and shaded with brown-green No. 6 and chrome green B.

Light Leaves.—Grass green and mixing yellow; for shading—brown-green No. 6 and dark green No. 7. Dark touches on the leaves—sepia and yellow ochre.

Bird.—Deep ultramarine blue, shaded with victoria blue and ruby purple mixed.

Breast.—Mixing yellow, shaded with orange yellow; brown No. 4 and ivory black mixed for the tips of the wings and tail.

CALIFORNIA MORNING GLORYS.

Flowers.—Foundation tint—bronze pink, graduated into bronze yellow towards the roots of the petals; shade with bronze pink; when dry apply a thin wash of bronze orange over the pink to soften it. The green shading is composed of matt yellow-green, and bronze green No. 1 for the darker tint.

Buds.—Bronze pink.

Leaves.—Matt blue-green foundation, strengthened towards the stem with matt dark green, and shaded with bronze green No. 1.

Stems and Small Leaves. — Matt yellow-green, shaded with bronze green.

CALIFORNIA MORNING GLORY.

In La Croix Colors.

Background.—Chinese yellow.

Flowers.—Foundation tint—carmine No. 1, delicately laid in and graduated towards the center into mixing yellow. Deep shading—carmine No. 2, full strength. Combine mixing yellow and apple green for the green effect at the base of the petals.

For the outside of Petals.—Yellow ochre and mixing yellow, delicately applied; tip of petals—carmine No. 2.

Leaves.—Deep blue-green foundation, graduated into apple green and mixing yellow; shade with brown-green No. 6.

Stems and Grasses.—Mixing yellow and grass green, touched with brown-green No. 6. The work is now ready for the first fire (rose-color heat); afterwards outline the design with hard gold.

CLEMATIS.

Flower in the Center.—Foundation tint—bronze lavender, shaded with the same, full strength. Deep shadows—matt purple; center—matt yel-

low-green and matt lemon yellow, streaked with matt purple and bronze pink.

Lower Blossom and Buds.—Bronze pink and bronze lavender mixed, with touches of matt purple ; center—same as above.

Flower on the Left.—Foundation tint—bronze pink delicately applied, and shaded with matt purple.

Stems.—Matt yellow-green and bronze yellow mixed ; shaded with bronze green No. 1.

Leaves.—Matt lemon yellow and yellow-green mixed for foundation tint, graduating into matt blue-green ; shading with bronze green No. 1. After the tint is perfectly dry wash over the entire leaf with matt blue-green mixed with very little dark green. The effects of green are softened by this combination.

Distant Leaves.—Bronze celadon and bronze lavender mixed, painted on the surface of the vellum ground.

CLEMATIS.—In La Croix Colors

Flowers.—Take four parts of victoria blue to one part of ruby purple for foundation tint, adding more purple for the deep shadows. The dividing lines of the petals are ruby purple, full strength.

The Delicate Green effects in the flowers are obtained with grass green and mixing yellow, shaded with apple green and carmine No. 2 mixed.

Leaves.—Mixing yellow and apple green ; brown-green No. 6 and dark green No. 7 for shading.

Buds.—Carmine No. 1, shaded with apple green and carmine No. 2.

Stems.—Violet of iron.

Distant Leaves.—Apple green and carmine No. 2.

PRIMROSES.

Flowers.—Foundation tint, bronze pink laid on very delicately, shaded with the same full strength, adding a very little bronze green No. 1 for the gray shading toward the center, which is matt lemon yellow shaded with bronze green No. 1.

Stems.—Bronze brown for the foundation, with strong touches of matt brown and bronze pink mixed, and finished with matt light yellow-green to soften the effect.

Leaves are laid in with matt blue-green and matt dark green, mixed; shadow side—matt yellow-green shaded with bronze green No. 1.

Distant Leaves and Tendrils are painted delicately upon the bronze vellum background with a combination of bronze lavender and bronze celadon.

PRIMROSES —In La Croix Colors.

Background.—Chinese yellow.

Flowers.—Foundation—carmine No. 1, laid in very delicately and shaded with carmine No. 2 and apple green.

Centers.—Mixing yellow, with touches of chrome green B.

Extreme Centers.—Brown green.

Stems.—Grass green. Brown green No. 6 and violet of iron mixed for shadows.

Leaves.—Dark blue-green and chrome green mixed, shaded with brown-green No. 6 and chrome green B. The yellow effects in the leaves are obtained with grass green and mixing yellow. Deep shading—brown-green No. 6 and dark green No. 7.

PASSION FLOWER.

Upper Flower.—Foundation—bronze pink, delicately applied. When thoroughly dry, go over the petals quickly with bronze celeste to produce the soft, pink lavender effect, as indicated in the colored design. All of the turned edges of the petals are laid in with bronze pink.

The Centers are treated alike with bronze yellow shaded with bronze orange. The radiating streaks are matt purple, with delicate touches of matt black.

Center and Lower Flower.—Bronze lavender shaded with the same, using matt purple for the deep shadows.

Blue-Green Leaves.—Matt blue-green and matt dark green, mixed, shaded with bronze green No. 1.

Yellow Green Leaves.—Matt light yellow-green mixed with matt lemon yellow; shaded with matt dark green and bronze green No. 1.

Stems.—Matt dark green with touches of bronze green No. 1.

Small Distant Flowers are painted upon the vellum surface with bronze lavender and bronze celadon.

When Thoroughly Dry outline the design (except distant effects) with relief paste.

PASSION FLOWER.—In La Croix Colors.

Background.—Chinese yellow.

Flowers.—Inside of petals carmine No. 1, blended into victoria blue.

Centres.—Mixing yellow, shaded with yellow-brown and ruby purple laid over the yellow.

Stripes.—Deep blue and ruby purple mixed, and ivory black for deeper effects.

Outside of Petals.—Carmine No. 1, shaded with carmine No. 2.

Yellow Green Leaves.—Grass green and mixing yellow, using brown green No. 6 and dark green No. 7 for shading.

Dark Leaves.—Blue-green delicately shaded with grass green.

Distant Flowers.—Deep blue-green very lightly laid over the ground tint.

Centres.—Mixing yellow.



Treatment for Fruit.

Strawberries.—Foundation—capucine red, applied delicately, particularly on the light side, shading with capucine, full strength, and darkened with deep red-brown. For lighter effects, use carnation No. 2 for the first wash ; while moist, stipple and round the berries.

Half-ripe Berries.—Carnation No. 1, deepened with capucine and blended into apple green, mixing equal proportions of carmine No. 2 and apple green for the gray shading ; stipple evenly.

Green Berries. — Foundation — grass green, ouched with brown-green No. 6, and stippled. When they are perfectly dry, put in the seed vessels with ivory black, cutting out the color for touches of silver yellow.

Vary the Coloring for Darker Berries with a transparent wash of orange red. On the shadow side, use the same color, full strength, and stipple smoothly. After firing, deepen the berries with capucine red.

Currants.—Delicate wash of orange red on the light side, the same full strength for shading, using touches of dark green No. 7 to deepen it.

Cut out the lights and glaze them over with grass green. Define the lines with the erasing pin, and cover them with yellow-brown.

Distant Currants.—Carnation No. 3 for the foundation, shaded with violet of iron, finished with touches of deep red-brown. Blend the tints with the painting brush, and do not use the stippler.

Yellow Cherries.—Beginning at the stem, lay in a delicate foundation with carnation No. 3, shading with capucine red and extending it down into ivory yellow, which is strengthened with orange yellow. While moist, stipple into form. Cut out the high lights, and after the first fire—on the orange yellow foundation—lay in a shadow tint of yellow-brown, adding a touch of brown-green No. 7. Stipple smoothly, avoid hard decided lines after cutting out the high lights; stipple the color to soften the edges.

Cherries, medium in color.—Orange yellow, shaded with capucine red.

Cherries, dark.—Foundation—deep red-brown, shading with ruby purple, stippled carefully.

Red Raspberries.—Foundation—carmine No. 1, shading with carmine No. 2; dark shading—purple No. 2. Trace the berry with carmine No. 2, and indicate the markings with the same color, making the "rings" heavier on the lower side and decrease their size as they reach the outside edge, to round the effect.

Green Berries.—Apple green and mixing yellow; shadow side—brown-green and dark green No. 7. Use the same color for markings.

Purple Berries.—Purple No. 2, shading and markings with the same ; full strength.

Distant Berries.—Foundation—victoria blue and purple No. 2, mixed, and delicately washed in ; the shadows and markings are laid in with the same, full strength.

Blackberries.—Rings, ivory black, full strength. When dry, a transparent wash of one part of ruby purple with three parts of victoria blue, adding very little ivory black, mixed thoroughly, and laid over the light side, graduated into deep red-brown for the shadows.

Gooseberries.—Highest lights—apple green and mixing yellow, blended into apple green and dark green No. 7 ; for the shadow tint, add a touch of yellow-brown. Cut out the veinings, and trace them in thinly with jonquil yellow. After the first firing, the shadow side of the berry will require a thin wash of capucine red.

Purple Grapes.—Foundation color—two parts of deep blue, with one part each of deep purple and ivory black, thoroughly mixed, and laid over the entire grape delicately, adding a little more purple for some of them, to obtain the red variety. Stipple smoothly. When dry, shade with the same colors, full strength. On the outside edge of the shadow side, leave the reflected light to round the grapes. Cut out the high lights, and, when thoroughly dry, lay over the colors a thin wash of victoria blue. After the first fire, round up the shadows with purple and black. When dry, place

a transparent wash of yellow ochre on the lower side of the grapes.

Half-ripe Effects.—Foundation—mixing yellow and apple green, blended into deep purple and ivory black, shaded with brown-green No. 6. The shadow side should be clear deep purple. Last shading—a mixture of deep purple, black and victoria blue, and stipple to round the grapes. When thoroughly dry, glaze with deep chrome green.

Stems.—Yellow-brown, shaded with violet of iron and brown-green No. 7. Touches on the leaves—violet of iron.

Tendrils.—Grass green and mixing yellow, shaded with brown-green.

Peaches.—Foundation—carnation No. 2, blended into violet of iron and sky blue for shading. The reflected light on the outside edge is laid in with yellow ochre.

A delicate foundation of ivory yellow for the light side, blended carefully with brown-green for shading. While moist, stipple the colors smoothly, and after firing, strengthen the shadow side with corresponding colors, and deepen the shading with three parts of brown-green, and one part of brown No. 4. Stipple evenly. When dry, add touches of carnation No. 2 with the stippler. For darker markings, brown No. 4 and violet of iron, and strengthen the ivory yellow with dashes of orange-yellow, reserving the lights. Give a strong fire.



Treatment for Leaves.

A general treatment for leaves will be given, and your copy will suggest the selection :

Blue-Green, worked in with grass green and mixing yellow ; shading with brown-green No. 6 and yellow ochre ; afterwards strengthen with brown No. 4. Tips—violet of iron. The ribs on the underside of the leaf—cut out and fill in with mixing yellow and grass green combined.

Apple Green and brown-green No. 6 for foundation color, worked in with violet of iron, and shaded with brown-green No. 6 and yellow ochre ; pink touches—violet of iron blended in with the green.

Stems.—Yellow-brown, shaded with brown No. 4 and violet of iron. The above will apply to grape leaves.

Dark Heavy Leaves. — Foundation — emerald stone green, shaded with the same mixed with brown-green No. 6 ; second shading—dark green No. 7 and brown-green No 6 combined.

Blue-Green Leaves. — Foundation — blue-green and dark green No. 7, graduated into apple green

and mixing yellow, shading with brown-green No. 6 and chrome green B mixed.

Yellow Leaves.—Mixing yellow and grass green, shading with brown-green No. 6 and dark green No. 7, with touches of sepia and yellow ochre.

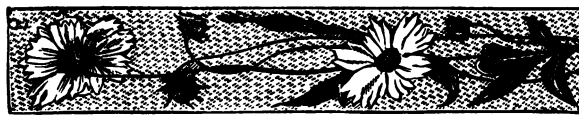
Medium.—Dark green No. 7, shading with grass green and mixing yellow; second shading—brown-green No. 6.

Delicate Leaves.—Apple green, adding carmine No. 2 for gray shading; used also for distant leaves.

Underside of Leaves.—Grass green and mixing yellow, or, blue-green, shaded with chrome green B.

Shadow Leaves.—Apple green and brown-green mixed, and blended into carmine No. 1, shading with apple green and carmine No. 2. Strong touches on leaves, tips and outlining—violet of iron.

Stems, Calyx and Stamens.—Grass green and mixing yellow, shading with brown-green No. 6 and chrome green, mixed. Brown-green No. 6, shading with brown No. 4. Blue-green, with a touch of carmine No. 2; shade with the same. Violet of iron, adding a little brown-green No. 6 and dark green No. 7 for shading



Backgrounds,

WITH LA CROIX AND ROYAL WORCESTER COLORS,

Are treated in the same manner. The dark colors require less dilution, consequently less oil is used with them. The proportion of the Osgood Art School tinting oil to grounding colors are; two parts of oil with four of color.

Begin at the top with the lighter tints, to be followed with the medium shade and graduated into the darkest color at the bottom. The colors should be blended while moist to prevent hardness of outline where they over-lap each other.

Use a deer-foot stippler No. 6, to reduce the dark tints to smoothness, while dabbers of cotton, enclosed in fine, soft mull, are required for the lighter colors, changing them often. Be expeditious, as your colors are drying.

The white spots which appear after firing, on the surface of delicate grounds, are often produced by using wet dabbers, and, again, by neglecting to incorporate the flux thoroughly with the colors.

Keep your tints pure and clean, to give brilliancy to your painting. If you have succeeded, the harmonious blending of your background will well repay you for the anxiety and trouble, and it will never be as difficult again.

A selection of La Croix colors for graduated backgrounds are given and will be found very effective; besides, the eye will become trained to observe the gradation of tints—useful in all branches of china painting :

	Light.	Medium.	Dark.
Blue—	Turquois Blue	Deep Blue	Old Blue
Green—	Olive Green	Brown Green No. 6	Dark Green No. 7
Yellow—	Jonquil Yellow	Silver Yellow	Orange Yellow
Pink—	Japan Rose	Deep Purple	
Red—	Carmelite	Capucine Red	Deep Red-Brown
Lavender—	Lavender Blue	Light Violet of Gold	Deep Violet of Gold
Brown—	Yellow Ochre	Sepia	Brown No. 4

Apply these colors in delicate washes. Pretty effects are produced with the light and medium tints alone. When thoroughly dry, sketch upon it a design, to be painted with the darkest corresponding tint, giving a very effective monochrome. When finished, outline with gold. If a more delicate treatment for flower painting is required, take the medium colors—for the darker shade—and graduating them into the lighter tints; or any one of the colors can be used alone, modifying the effect with the aid of tinting oil, and pouncing them into delicacy. All colors require a *strong* fire before working the hard gold over them, otherwise the gold will sink into the rough surface of the painting, and no amount of polishing will restore it to brilliancy.

Royal Worcester backgrounds are treated in the same manner. To one part of ivory vellum add two parts of either of the following bronze colors: *Pink, lavender, celeste, water green, orange, golden buff;* thoroughly mix them with the tinting oil, and graduate this mixed tint into ivory vellum as your taste may suggest.

Bronze brown and Paris blue, Green Nos. 1 and 2, used alone for solid effects, and fired; afterwards treated with hard gold or brushing the gold over it (not too heavy) will give the appearance of genuine bronzes. It is a waste of gold to attempt mixing it with the moist color, and not as satisfactory as the process described.

When preparing a quantity of color for backgrounds use a small glass muller for mixing them upon a porcelain tile. A palette knife cannot be used indiscriminately with colors, some of which change when brought in contact with steel; besides, you have the broad surface of the muller to better incorporate the mediums. The success of your painting largely depends upon thorough mixing—to avoid inequality and unevenness of tint, as if dust had settled into the color when moist.



Directions for Laying Grounds.

The most important preliminary requisite to successful tinting and painting with mineral colors is an entire absence of dust. If any should accumulate upon the surface while working, remove it at once with a needle. If allowed to remain, the color will settle about the particles and produce a bad effect after firing.

Prepare the china for sketching by rubbing the surface with turpentine, as it will take the pencil better. If you are unable to draw in the design, transfer them with the aid of tracing or impression paper, afterwards outlining the sketch very delicately and distinctly with a No. 1 tracer and India ink. Make all corrections before laying the tint, as a defective drawing cannot be disguised with color.

Decide upon the quantity of grounding tint required, as it is an impossibility to match shades with moist colors.

Take four parts of any quantity of ivory vellum or cream tint, and add to it two parts of tinting oil, which prevents the color from drying too rapidly. A thorough mixing of the two is very necessary.

When it is reduced to a smooth paste, add turpentine, being careful not to use it in excess. When it flows from the brush, covering the ware opaquely and remains without spreading, then it is in fine working condition.

If too thin, add a little more color; if a great deal of color is required, more oil must be used, otherwise the tint will dry too fast. If too much oil is used, it draws the dust to the color and every precaution cannot prevent it.

The brush must be thoroughly cleaned with turpentine, dried, then dipped in oil. A few strokes upon a tile will reduce the quantity of oil in the brush, which is now ready for the color. The cause of unsuccessful ground-laying can be attributed, very often, to placing the brush in the color direct from the turpentine, which not only thins the color, but gives a streaked effect to the surface which blending cannot soften.

Mixing thoroughly cannot be too strongly insisted upon; always use a horn knife or glass muller, never utilizing the brush for the purpose—spoiling it for all practical use. The tint should always be remixed whenever the brush is returned to it, adding very little turpentine when it becomes too thick. If any color remains after painting or tinting, it can be returned to the vial in its moist condition, and used again.

Brushes.—Use a large, flat camel's-hair grounding brush, size ½, perfectly free from loose hairs, clean, and otherwise in good condition.

Directions for Working.—Everything being in readiness, charge the brush with color, and proceed to cover the entire surface of the china with broad, flat washes, in such a manner that each application of color will soften into each other, giving an even smoothness to the work which can never be accomplished by hesitancy, so quickly perceptible in ground-laying. If the surface is devoid of ridges, do not blend it. If it presents an uneven effect, use a dabber or deer-foot stippler to soften the tint, being expeditious, otherwise your color will become dry and unmanagable.

Do not blend too much, as the dabber and the brush absorb the medium, leaving the color "grainy" and the surface semi-opaque, in direct opposition to what it should be. A skillfully-managed background presents more difficulty to the amateur than the decoration that follows.

Dabbers should be prepared in advance, and changed as often as the color collects upon them. They are made by placing cotton within a square of soft linen or silk, bringing the four corners together, and tied. The deer-foot stippler should be cleansed with turpentine, drying it with a cloth, to prevent it from "taking up" the color while blending. It will be found useful in the small interstices of the handles, etc. If you have failed in the first trial do not experiment by trying to patch it, but remove the color, and follow the directions more closely. Your second attempt may be successful ; at the same time you are becoming acquainted with the materials in hand,

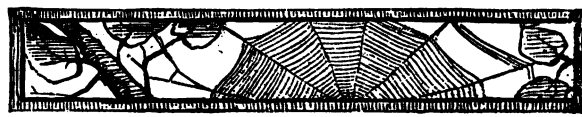
and the effects of different methods, as applied by yourself.

As there is more or less risk in handling Royal Worcester backgrounds, it is advisable to have them fired first. If they are short-fired—they will come out almost black or smoked—place them back in the bottom of the kiln, give *a strong* fire, and the discoloration will all disappear. They require the same temperature of heat given to carmines and gold. The bronzes containing more body of color, are liable to chip off with repeated firings, while the matt colors show greater resistance against heat—matt coral red is the exception, being a fugitive color will stand only one firing.

Royal Worcester backgrounds and colors can be softened by rubbing them carefully with the finest emery cloth—No. oo—which will remove the roughness caused by firing. La Croix colors can be treated in the same manner.

Before stenciling the ground tint with tar paste it must be thoroughly dry, to prepare the design for painting, which will be visible through the color.





Directions for Using Tar Paste.

After laying on a background, keep it free from dust, and allow it to harden before applying the paste. Use no heat in the drying process. Mix a little of the paste upon your palette until smooth (if it is hard add a few drops of tar oil), and with a small brush cover every part of the design you wish to stencil out with a thin coating of the paste, using care not to go beyond the outlines. This completed, wipe off the paste with small wads of cotton batting (previously prepared), using them only once. If the backgrounds are heavy in tint, add a little clove oil in connection with the tar oil, and apply a heavy coating of the paste—which should stand a few moments before removing. The article is now ready, with the design in white, to be filled in with color. Keep the bottle well corked when not in use.





Directions for Mixing Relief Paste,

FOR RAISED GOLD.

It is very necessary to have the paste thoroughly ground and perfectly free from grit. Calculate the quantity required, then take two parts of fresh tar oil to four parts of paste. With a horn palette-knife mix until the relief is incorporated into a smooth paste, adding very little fresh turpentine, mixing the second time, all of which is improving it.

Working directions.—Take a No. 1 tracer, not too short, as it must hold enough for an extended line, when required. Insert the point *underneath* the paste, taking it out with a quick, upward motion, causing the paste to remain on the upper side of the brush ; the paste is less liable to spread by observing this precaution. To have charged the brush with relief, as you do with color for painting, the round beauty of your outline would be lost.

The consistency can be determined by trials only. If it separates, it is too thin ; then spread it upon the tile, allowing the turpentine to evaporate. Breathe upon it, but do not add more oil, as it will blister in firing. After a few minutes,

mix again and make another trial. If the relief is too solid, add a few drops of turpentine. When in perfect working condition it will follow the brush in a solid, smooth, unbroken line. Graduated lines are regulated by a slight pressure on the brush at the beginning of the stroke, raising it slowly and forming a hair-line towards the finish.

Do not, in the beginning, attempt complicated designs. Try simple effects. Give clear definition to your strokes, and lengthen them by degrees only as you are able to do it well. Avoid raising them too high, or too sharp and irregular. Any hesitancy is plainly visible, taking away the effect desired when finished—that of a gold wire encircling the flowers and leaves.

All colors must be hard-dry before applying the paste over them. Complete any portion of the work commenced, for the reason, after the paste has become hardened it will not absorb the fresh applications; and, while it may have every appearance of durability, it will scale off in firing. Repairs are always possible; at the same time, avoid patching when you can. Allow the work to have sufficient time to dry gradually and *thoroughly* before placing it in the kiln.

If it chips off, after firing, you have possibly applied it over an oily surface of color, not perfectly dry. This is considered to be the principal reason; yet there are others. The paste may not have been thoroughly mixed and worked too dry, or the mediums—if not fresh—have made it too

fat, causing it to blister and chip in firing ; and if not smoothly ground, the mediums *will not* reduce it sufficiently. The rough, broken line will come from the kiln more irregular, and portions of it having disappeared entirely.

Anticipate these difficulties and guard against them. Remember that paste improves and enhances the effect and value of gold in decoration, while gold *will not* hide defects in paste, only making them more apparent. A disposition to practice in laying paste is an advantageous use of time.

In putting on layers of paste, one over the other, for modeled effects, the first must dry partially before the next one is applied, and be devoid of all grit, to produce a smooth, even surface, upon which the gold can be placed with safety ; if irregular, you will lose one-half the effect of your gold, which has been absorbed into the paste, and retouching will not remedy it. Pretty results are produced with outline work in small flowers and conventional borders upon the plain ware ; then fill in the design with different colors of gold. Backgrounds treated in this way give a pleasing variety.

When an entire decoration is carried out with paste and gold in connection with dark, heavy backgrounds, stencil out the design, and lay the paste direct upon the ware, then give a regular kiln fire ; afterwards matt gold is applied over it solidly, leaving no visible trace of the paste underneath. Polish with a glass brush.

Doulton manufacture produces beautiful examples of the raised gold work. Royal Worcester gold decorations are confined more to delicate tracings upon the color, defining the form and veining of the leaves very closely.

Relief enamels are treated in the same manner as the paste, differing more in the application to the ware, which consists of laying dots in imitation of jewels. They can be dropped into any size or form; mix enamels with a horn palette knife, and fire only once.

Jewels are fastened to china with either relief paste or enamels, then given the same temperature required for firing glass, which is the clear red glow before reaching "rose color heat." If fired too long, you need not be surprised to find your carefully-arranged jewels misplaced, and those that are missing secured upon other pieces of china, where they have dropped on reaching the *melting point.*

To avoid these disasters, sketch your design upon the background, making a careful calculation for the size and form of the jewels to be used, then, with tar paste, stencil out the color (do not go beyond the outline) and fire the work.

Afterwards, with the aid of cement—the same that is used for repairing china and glass—secure the jewels in place; after a thorough drying, the permanency and durability of your decoration is assured.

DIRECTIONS FOR USING

The Osgood Art School Gold

Before attempting the gilding of china, it is imperative that everything should be scrupulously clean and free from dust. To neglect this precaution, the gilding will be irregular, and the effect of the work destroyed.

The gold is in the form of brown paste; when fired, it comes out a light, unglazed, yellow tint, requiring a glass brush to polish it if a matt appearance is desired, or burnished with an agate burnisher for a more brilliant effect.

Matt gold grounds can be embellished by chasing upon the surface, with a sharp burnishing tool. Repeated scroll designs produce the best effect for this process of engraving upon gold, which should first be accurately drawn in with India ink, as mistakes are very apparent, and are not easily corrected.

Mineral colors in black or red, can also be applied in describing tracings, and lines, upon gold

grounds. If they are judiciously used, a very artistic effect will be achieved.

Brushes.—The most reliable brushes for gold are the imported French tracers No. 1—No. 2 for general work. They become hard when not in use, and should be softened carefully with turpentine in a cup, kept expressly for that purpose, as the valuable sediment formed in the bottom, can be removed after the turpentine has evaporated, and used again.

Practical Directions.—Place the gold upon a ground-glass slab. Thoroughly incorporate with it *very* little fat oil and turpentine, using a horn knife for mixing. If too much fat oil is used the gold will blister in firing, while turpentine is gradually added during the entire process of gilding, to keep the gold open and in working condition.

Do not load the brush with too much gold, as it will impede the stroke, resulting in an uneven outline, while the right quantity will admit of freedom in working, to produce a solid line. Amateurs are inclined to apply the gold as a wash, which is disappointing in its effect after firing, and can neither be burnished or polished.

The exact manner of laying the gold evenly, cannot be perfectly described. Notwithstanding this, it can be successfully accomplished, requiring judgment and delicacy of touch, combined with patience and perseverance.

The Stippled Effect of Gold, as seen on Doulton and Japanese wares, can be closely imitated, by

using the single-quill Fitch stippler, the sizes depending upon the work required of them. The process consists of dabbing and blending the gold upon the china, and is quite easy, besides making a choice variety for decoration. It should always be polished with a glass brush, as burnishing cheapens the effect.

To Band China with any degree of accuracy, it will be necessary to use a wheel manufactured for the purpose. The disk which holds the ware revolves upon a pivot, while the brush, dipped in gold, is held firmly over it. The point resting upon the plate in position—to describe circles or bands as the wheel turns. Considerable practice is required to make this difficult process a success.

Burnishers come in different sizes; are straight, round and curved, mounted in brass ferrules, attached to wooden handles. Select only those which are absolutely perfect. They are the least expensive in the end.

A defective tool will deface the gold, and will require re-gilding.

The ware to be burnished should be held with a cloth, and the gold frequently cleansed with magnesia or whiting, to remove the dust and moisture constantly accumulating.

The burnisher must be held with a slight pressure, working as much as possible in the same direction.

It is very necessary to have a piece of leather (tacked over a grooved block), upon which whiting or burnishers' putty has been sprinkled, to polish

the tool, as it becomes heated by friction, causing it to slip over the gold. It also facilitates the operation, which consists wholly in removing scratches.

When all imperfections have been obliterated, the surface will present a fine, even lustre.

Polishing with a spun glass brush, encased in twine, is a more simple process, requiring neither patience nor skill to brush back and forth, giving to the raised effects (if any) a more thorough polishing, to produce a greater degree of brilliancy, and vary the finish of the gold. This process is preferable to burnishing, for Royal Worcester decorations.

The imported fine gold work is finished in this manner. Gloves will protect the hands from the particles of glass, which are constantly falling from the brush when in use.

The frosted gold surface, so much admired on the Royal Worcester ware, is easily imitated, by first burnishing the gold, then firing the second time. If you have failed in producing a perfect surface, finish with the glass brush, which should never be used near the color box, as the small particles of broken glass cling tenaciously, and develop after firing; no retouching can remove them.

Gold should be fired rose-color heat. If short-fired, it will rub off if any attempt is made to polish it. If fired properly, it will appear a soft matt yellow color, and is very susceptible to the finishing process.

If fired too much—too hard is the term which expresses it better—it can neither be burnished or polished. Regild and fire again.

Amateurs are advised to gild the china for the first firing, retouching it for the second, if necessary. Only skilled experience can lay gold evenly, to be finished for one firing. This does not apply to working gold upon color, which must *always* be fired first.

Hard or unfluxed gold is exclusively prepared for over color, as the flux in the color is sufficient for both.

Matt or fluxed gold is used for banding china, handles, and general gold decorations, to be applied direct upon the plain surface of the ware. It should also be used over relief paste, and can be applied to the underglaze blue ware, successfully.

Red and green gold can be worked over color, also direct upon the ware. They make beautiful color combinations, with matt gold, for the yellow variety.

In case the gold has blistered in firing, from having been laid too heavy in places, or made too rich with fat oil, very carefully remove the roughness with the finest quality of emery cloth—No. oo – reduced still finer by rubbing two pieces together, in order not to scratch the remaining gold. This cautiously completed, apply the gold (regular consistency) smoothly over the defects, blending it at the edges.

Your greatest care will not hide repairs, making it necessary to consider every requirement before laying the gold. Try to succeed in getting an even surface, with the first stroke of the brush, and not go back to retouch it.

Liquid gold, although less expensive, often proves to be more costly in the end. It should never be used over Royal Worcester, spreading, as it will, upon these absorbent, soft colors.

In the hands of decorators, in factories, where a cheap grade of gilding is required, good effects are very creditably produced, owing to their professional skill; while with amateurs, more or less uncertain, and experimenting, besides not using proper care to remove errors (which should always be done with soap and water), are greatly surprised to find their china disfigured with unsightly spots of purple—after firing—which can only be removed with acid.

When several pieces, decorated with liquid gold are fired, the steam, which arises, often endangers the brilliancy of the colors, and greatly reduces the chances for glazing them. The mediums for this gold must be very carefully added, or it will come from the kiln resembling *crackled copper*. Retouching at this stage will not restore it.

If the burnished gold is polished when first taken from the kiln (even while hot), it will more readily yield to the burnisher, or the glass brush, producing a higher lustre when completed.

If the gold you are using is *highly fluxed*, and will not polish with a glass brush, wrap your finger in

a soft piece of "cheese cloth," dip in water, then into burnishing sand (repeating this process often), gently scour the gold, going over the entire surface. When completed, wash off the sand, and finish with the glass brush. If the gold has been properly fired, this process is of short duration.

Bronze Colors, when used for solid effects, can be enriched by adding equal proportions of fluxed gold with them, or more if you wish to produce the deep rich bronze gold effects, which are either scoured with burnishing sand or polished with a glass brush.

Pure Gold.—A rich yellow color free from alloys.

Green Gold.—Three parts of silver to nine parts of fluxed gold.

White Gold.—Equal parts of silver and fluxed gold. An excellent substitute for silver, as it is less liable to tarnish.

Red Gold.—Three parts of copper to six parts of fluxed gold.

How to prepare Chloride of Silver.—Cut up into small pieces one ounce of pure sheet silver, place it in a large glass pitcher with one and one-half ounces of pure *nitric acid.* When the silver is decomposed pour a quantity of water over it, adding common salt enough to cause the silver to precipitate to the bottom of the pitcher like a thick white curd, let it settle a few minutes, then add more salt, shake the solution and settle again, pour off the water carefully, do not disturb the sediment, add fresh water, settle and pour off; repeating this until the salt is all removed and the water remains clear, then drain the silver and dry thoroughly. Afterward grind to smoothness on a glass slab with turpentine, place the silver in a wide mouth bottle, corked tightly, and keep it away from the light. To be added to fluxed gold in proportion as above described.



Fish.

The similarity of treatment for all fish would necessitate constant repetition if details were entered into for each particular plate; and, to avoid this, No. 1 will be carefully explained, and the different stages of painting can be practically adapted to the others—the only change will be in the variety of colors used, as the species of fish may suggest.

The process is systematic in the extreme, beginning with:

1.—Washing in of the foundation colors, using the stippler to soften the effect.

2.—Shading and modeling with the stippler.

3.—Glazing the colors underneath with tints that will produce an even, high gloss after firing, rendering transparency to the work—absolutely necessary in fish painting. Make a thorough study of your subject, observe the different characteristics of the fish, and see that your drawing is correct in every particular.

The non-absorbent surface of the china adds to the difficulty of fish painting, and to avoid the

washing up of the tints, as the different layers of colors are applied, each application must be quickly laid on.

Do not overcharge your brush with color too moist; and, above all, do not hesitate and go back to repeat the work, but persevere to the end, then consider the result. If the white china has asserted itself, the most expeditious way to get rid of it is, by removing the remaining color and begin again, unless you are an expert at stippling. To patch, by laying on color, is seldom, if ever satisfactory.

When the washes can be applied broad and flat, use a square shader, that will cover the surface evenly. With a steady sweep, you can regulate the quantity of color in the brush, and also ascertain whether you have the tint desired, by repeated strokes upon the palette.

The colors prepared, brushes cleaned, a perfect freedom from dust, and we are now ready to begin with the work in hand.



No. 1.

Materials and Colors Required for Fish Painting.

Materials.—Bottle of tinting and painting oil; clove oil; fat oil; turpentine; tar paste; and tar oil for relief paste.

Brushes.—Grounding brush; two square shaders; two round shaders; two stipplers—Nos. 5 and 6; three tracers—Nos. 1, 2 and 3.

Colors.—Relief paste; Aufsetzweis; ivory black; gray, Nos. 1 and 2; neutral gray; carmine No. 1; victoria blue; brown-green No. 6; deep chrome green; dark green No. 7, brown No. 4; yellow-brown; ivory yellow; jonquil yellow; yellow ochre; violet of iron.

The design of this set in china, is called the "claudia"—well-adapted for fish and game. The band and line are raised upon the ware, while the grasses which surround the plate are depressions, making it very easy to follow with gold.

Treatment for No. 1.—First cover the surface with a thin wash of turpentine; when dry, make a careful outline drawing of the fish, weeds, etc., with India ink—it is less liable to rub off, in case of corrections—and they should all be made, before applying the background, which is gray No. 1, adding one-fourth flux (all grays require this pro-

portion to flux them); then pounce it evenly. The design is now clearly visible through the tint; cover it with tar paste; after a few moments, remove it with a quick, upward stroke, using small wads of cotton, and changing them often. The spaces left in white are ready for the first painting.

The mediums are equal proportions of clove oil, and fat oil, well mixed, and incorporated thoroughly with the colors, which are diluted with turpentine, into working condition, using just enough to have them flow smoothly.

Professional decorators will finish the work, all for one firing, unless paste and gold are used, then two firings are always required. Amateurs are not expected to accomplish as much, while it is advisable to complete the painting as far as possible for the first firing.

The foundation color, for the upper part of the fish, is a combination of two parts of sky blue to one part of neutral gray, thoroughly mixed. Flatten the brush upon the palette; take up the color, keeping it on the underside of the brush, and lay on the tint, full strength, beginning at the tail, and widening the stroke, as you approach the head, blending and losing the color as you reach the center, towards the lower part of the body, and leaving the white china to supply the lights.

This produces a silver gray local color, and its graduated tints are stippled with a small fitch-hair stippler into roundness—not by force, but blended and modeled delicately. The transparency, light,

and shade, all depends upon the intelligent manipulation of the stippler. It is, indeed, the critical turning point of the entire process.

If you do not succeed in giving form to the fish, and your work looks flat, rub it out, and repeat the painting; as there is a likeness of a fish to be secured, you must, at least, obtain some resemblance to it.

The upper fins, and tail, are laid in with equal proportions of brown No. 4 and neutral gray, and, when dry, shaded with two parts of ivory black, thoroughly mixed with one part of brown No. 4.

Fins next to the gills are covered with a delicate wash of brown No. 4 and shaded with the same.

Lower Fins.—Carnation No. 1, adding a very little ochre to it, to soften the tone; when dry, shade with one part of carnation No. 1, and two parts of brown No. 4. Model the fins with this shading tint, by laying it on in broken strokes.

Outline the upper part of the fish, mouth, eyes and the gills, also the irregular line, extending from the head to the tail, with ivory black.

When thoroughly dry, outline the lower part of the body, and indicate the scales, with gray No. 1, modifying the strength, as you approach the lights below, with the same color; add touches around the eyes and mouth, and put in the eye with ivory black and a little sky blue added. Take out the color around the eyes and gills, and on the line of the mouth, and lay in a thin wash of carnation No. 1. The markings are ivory black.

Center of the shell—apple green, blended into violet of iron, and neutral gray, towards the outside edge; on the turned edge, use neutral gray and sky blue mixed; shaded with brown No. 4.

The lighest effect of the sea-weeds are yellow ochre and violet of iron, shaded with brown No. 4; cover the net with relief paste, and it is now ready for the first *strong* firing.

Second Painting.

Follow the upper outline of the back with a thin wash of ivory black, beginning at the head, and narrowing the stroke towards the tail; adjoining this, place another row of the same color, diluted into delicacy; the third row below this—about the center of the fish—is washed in thinly, with gray No. 1, which forms the shading tint for the white, and extends almost over the lower part of body, leaving the china for the lights. Stipple and model very carefully these tints into delicacy, and fire the second time.

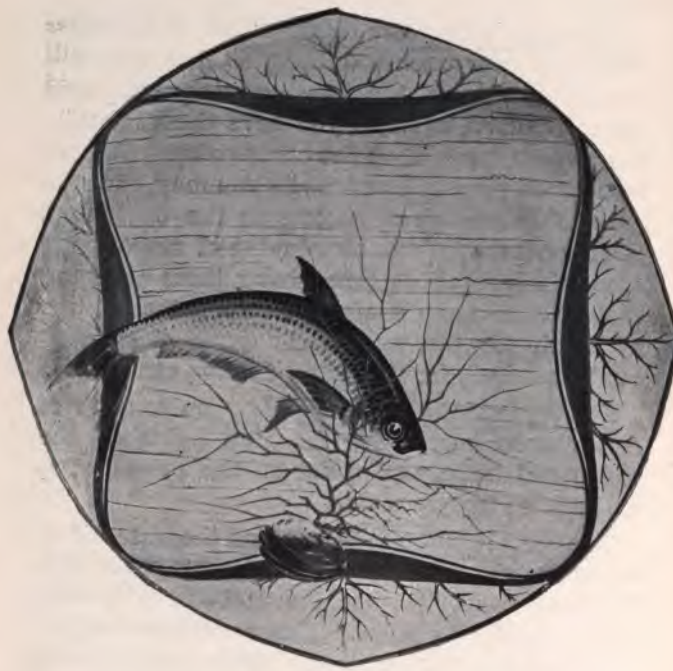
The last painting consists of glazing, and retouching. Cover the upper part with deep chrome green, softened towards the center with the brush; over this a quick, transparent wash of brown No. 4, to strengthen the shading, and also to complete the rounding of the fish. Stipple evenly into smoothness, and, when thoroughly dry, go over the entire upper part with sky blue, very thinly laid on, and softened towards the center with yellow ochre.

The same color to be applied, on the fins, tail, and around the eyes. Shade the mouth with brown No. 4 ; strengthen the scales with gray No. 1, and the dark touches, or markings, with ivory black.

This may seem very difficult, and it is, unless you keep your washes diluted, so that they will flow freely from the brush, for quick, rapid strokes. Then, again, if you have them too thin, they will infringe upon the other colors. Experiment upon your tile, and while you may expect a reasonable amount of success in the beginning, you cannot master the over-laying of moist colors successfully without first giving them repeated trials. It is worth the effort, as it is the *only way* by which the rich, transparent depth of coloring can be secured, for fish, fruit, flowers, etc.

To complete the Painting.—Lay on touches of Aufsetzweis enamel for the high lights on the scales and body, and a dot on the eye—do not make them too prominent.

The high light on the shell, and the water lines, are hard gold. Cover the relief paste, and edge the plate, band, line, and indentations, with matt gold ; regular kiln fire. This treatment for gold and enamel will apply to the entire set, and will not be repeated. Polish the gold with a glass brush.



No. 2.

Treatment for No. 2.

No. 2.—Background—celadon gray. Follow the directions given for No. 1, throughout the entire set, when the treatment for fish is not mentioned.

Upper part of shell—victoria blue, with a touch of ruby purple, graduated into brown-green No. 6, and jonquil yellow at the bottom; shaded with brown No. 4; dark grasses—violet of iron; heavy weeds, showing dark in the study, are relief paste.



No. 3.

Treatment for No. 3.

No. 3.—Background—pearl gray, one-fourth flux.

Shell.—Foundation—yellow ochre, with a touch of brown No. 4 added ; the inside of shell—violet of iron, and shaded with brown No. 4 and dark green No. 7.

Dark Weeds—brown No. 4 and violet of iron.

Light effects—brown green No. 6 and violet of iron. Hook and line are relief paste.



No. 4.

Treatment for No. 4.

No. 4.—Background—pearl gray, with the addition of a little brown-green No. 6.

Shell.—Carmine No. 1, and sky blue, blended into brown-green No. 6, and yellow ochre, producing an iridescent effect; shaded delicately, with brown-green No. 6, and brown No. 4, mixed.

Upper Grasses.—Foundation—yellow ochre and brown-green No. 6; shadows—yellow ochre and violet of iron.

The stem, and strong touches, are violet of iron. Weeds, growing out of the shell, are laid in with relief paste.



No. 5.

Treatment for No. 5

No. 5.—Background—a combination of blue-green, apple green, and yellow ochre; one-third flux.

Shell.—Foundation—yellow ochre, adding brown No. 4 for shading; center—violet of iron, laid on *very* delicately, towards the outside edge, and shaded with neutral gray; upper weeds—carnation No. 1; use violet of iron for shading.

Dark Weeds.—Olive green, and brown No. 4, shading with brown No. 4.

Weeds above the Shell.—Brown-green No. 6 and violet of iron; those growing out of the shell and extending over the head of the fish, and under it, is laid in with relief paste.



No. 6.

Treatment for No. 6.

No. 6. — Background — steel gray; flux one-fourth.

Shell.—Foundation—carnation No. 1, shaded with violet of iron, and brown No. 4; dark shadows—brown No. 4, and dark green No. 7.

Weeds.—Neutral gray and brown No. 4. Those attached to the shell are relief paste.



No. 7.

Treatment for No. 7.

No. 7.—Background—neutral gray, and light sky blue, mixed thoroughly.

Fish.—Foundation—a thin wash of brown-green No. 6, blended down, into brown No. 4, and losing the tint towards the lower part of the body; stipple carefully. Treatment of the head, fins, tail, eye, scales, markings, and outlining, including the line extending the length of the body, same as No. 1.

Shell.—Deep chrome green, blended with yellow ochre, and shaded with dark-green No. 7 and yellow ochre; ivory black, and dark green No. 7, for strong touches.

Weeds.—Neutral gray. By adding brown-green No. 6, violet of iron, and brown No. 4, in different proportions, you will secure the soft gradation of tints, clearly shown in the design. Cover the net with relief paste, and give a strong fire.

Second Painting.—Over the top of the fish—a thin wash of deep chrome green, and strengthen the shading with brown No. 4; the markings with ivory black, and the scales gray No. 1, graduating the strength of the color, into delicacy, as you approach the lights, and finish with enamel, etc., same as No. 1.



No. 8.

Treatment for No. 8.

No. 8.—Background—turtledove gray.

Fish.—Foundation color for the top extending to the center of the body—is composed of one part deep chrome green, with three parts of neutral gray, thoroughly mixed, laid on delicately; over this, a quick pale wash of yellow ochre, with a little chrome green added; stipple and model carefully. Head, scales, fins, eye, tail, etc., same as No. 1.

Shell.—Outside—yellow ochre, and violet of iron, shading with brown No. 4, modified, for light and dark touches; center—violet of iron, shading with apple green and brown No. 4.

Weeds on the right—brown No. 4, applied delicately, and with full strength for the dark effects; those growing out of the shell are relief paste. Now ready for the first firing. Shading and finishing fish, same treatment as No. 1.



No. 9.

Treatment for No. 9.

No. 9.—Background—one part of yellow ochre, to two parts of turquois blue, with a touch of ruby purple.

Foundation of Fish—a thin wash of brown No. 4, on the upper part, and blended into a delicate tint of carnation No. 1, to the center of the fish, and stippled into ivory yellow, very pale, towards the lower part of the body, all softened, and modeled into roundness. When *perfectly* dry, finish head, fins, tail, eye, scales, and outlining, same as No. 1. The strong markings are ivory black, below this capucine red, and, for medium touches, use neutral gray. Inside of the mouth—carnation No. 1 shaded with carnation, and brown No. 4.

Shell.—Victoria blue, blended into yellow ochre, shaded with dark green No. 7, and yellow ochre; center—ivory yellow, shaded with brown-green No. 6.

Grasses.—Ruby purple for dark effects; those extending over the fish are relief paste. Ready for the first fire. Strengthen the top of the fish with a transparent wash of brown No. 4, shaded with ivory black, stipple evenly and finish same as No. 1.



No. 10.

Treatment for No. 10.

No. 10.—Background—turtledove gray, flux one-fourth.

Treat the upper part of the fish with a transparent wash of deep chrome green, shaded with dark green No. 7, blended towards the lower part of the body with gray No. 1, to produce the silvery tones, predominating in mackerel.

Stipple and model delicately. The markings on the side and the upper out-line are laid in with ivory black. Head, fins, tail, eye, scales, etc., same as No. 1.

Shell, outside.—Chrome green, shaded with olive green and dark green No. 7; center—violet of iron, shading with brown No. 4.

Grasses.—Neutral gray and brown No. 4; violet of iron and brown No. 4 for the darkest; the light gray effects are laid in with relief paste. Ready for the first fire.

Strengthen the shading on the top of the fish and the markings with ivory black; and finish same as No. 1.



No. 11.

Treatment for No. 11.

No. 11.—Background—steel gray.

Fish.—Foundation color—three parts of sky blue, to one part of neutral gray, thoroughly mixed, blended into ivory yellow towards the center, and followed with carnation No. 1. Model, and soften with the stippler. Head, outlining, eye, scales, etc., same as No. 1.

Shell, outside.—Ivory yellow; first shading—brown-green No. 6; second shading—brown No. 4, with the addition of a little yellow ochre.

Upper Dark Weed.—Brown-green No. 6, shaded with yellow ochre.

Light Weed.—Ivory yellow, shading with violet of iron and touches of brown-green No. 6.

Grasses.—Neutral gray and violet of iron, for strong effects. The heavy grasses, extending towards the center of plate are relief paste; ready for first fire.

The upper part of the back is strengthened with brown No. 4: softly blended over this, a thin wash of ivory black; the heavy markings are ivory black; next in strength, capucine red; the light effects—brown No. 4, delicately applied. Completed same as No. 1.



No. 12.

Treatment for No. 12.

No. 12.—Background—warm gray, flux one-fourth.

Fish, upper part.—A delicate wash of brown-green No. 6, blended into ivory yellow, towards the lower part of the body; mix brown-green No. 6, and dark green No. 7, for shading, laying it over the foundation color, and stipple into roundness and delicacy. The dark shading, or touches, are ivory black. The scales, fins, tail, eye, and outlining the same as No. 1.

Shell.—Ivory yellow, shaded with brown No. 4; center—light sky blue, blended into yellow ochre, and brown-green No. 6.

Weeds.—Brown-green No. 6, shading with dark green No. 7; on the left and extending towards the center of the plate, is a combination of violet of iron, and neutral gray, laid in very delicately; the darkest effects—violet of iron; hook and line—relief paste. Give a strong fire. Strengthen the shading on fish, and finish same as No. 1.



No. 13.

Treatment for No. 13.

No. 13.—Background—steel gray, one-fourth flux.

Grasses.—Dark green No. 7, brown-green No. 6, and neutral gray; use violet of iron for the darkest effects. This combination to be modified in strength, to give the variety of tones, as clearly indicated in the study. Model the net with relief paste.



No. 14. Tray for Sauce-Boat.

Treatment for No. 14.

No. 14.—Background—turtledove gray.

Fish on the Right.—Upper foundation—violet of iron, blended into neutral gray toward the center, losing the tint on the lower part of the body, leaving the white china for the lights; stipple evenly.

When dry, shade upper part of fish with the under foundation colors, used full strength.

The outline and shading tint on the upper part, also the tracing of the fins, gills and scales, is a combination of three parts of carnation No. 1 with one part of neutral gray.

Second shading on the upper part—violet of iron, with a touch of brown No. 4. On the lower side, use gray No. 1, to strengthen the shading. Touches of ivory yellow on the tail and fins, adding very little brown-green No. 6, to produce the iridescent effect.

Outline the eye with ivory black, with a touch of sky blue added for the pupil. The lower outline of the body and shading is laid in with light gray No. 1; lights on the scales, and eye—Aufsetzweis enamel.

Fish on the Left.—Upper foundation—three parts of victoria blue, with one part of neutral gray, followed with ivory yellow, delicately blended into violet of iron, and light gray No. 1.

Head—dark green No. 7, softened into grass green and mixing yellow. Scales, outlines, tail, fins, and eye—same as No. 1; lights—Aufsetzweis enamel.

Grasses—violet of iron and neutral gray, modified with brown-green No. 6 for strong effects.



No. 15. Sauce-Boat.

Treatment for No. 15.

No. 15.—Background—turtledove gray ; foundation color for the upper part of the fish—two parts of sky blue, mixed with one part of neutral gray. Begin at the head and narrow the stroke towards the tail ; follow with gray No. 1, extending it towards the lower part of the body, using the same for scales and lower outline ; upper outline—ivory black. The fish, fins, gills, eye, scales, etc., are finished same as No. 1. Lay in the mouth with violet of iron, shaded with brown No. 4.

Fish on the opposite side of the boat—thin wash of brown-green No. 6, blended down into brown No. 4, and losing the tint towards the lower part of the body ; stipple carefully. Treatment of the head, fins, tail, scales, marking and outlining, including the line extending the length of the body, same as No. 1. Handle treated solidly with matt gold.

Violet of iron, in combination with either yellow ochre, ruby purple, brown No. 4, dark green No. 7, and brown-green No. 6, produces a pleasing variety for sea-weeds. Carnation No. 1, using gray No. 1 for outlining and shading, imitates, very closely, the soft, pink sea-weeds.

Soft-Shell Crab.—Upper part of the body—a delicate wash of deep chrome green, graduated into dark green No. 7 and brown-green No. 6, extending to the ends of the claws, which are edged with carnation No. 1 and shaded with violet of iron.

When dry, soften the colors on the back with mixing yellow and grass green, thoroughly mixed; on the lower part of the body, lay a delicate wash of ivory yellow and brown No. 4; touches of blue-green around the eyes and on the claws. Deep markings—dark green No. 7; give a strong fire.

Lobster.—On the shadow side, tail, and large claws, apply ivory black, blended into brown No. 4 and violet of iron; stipple smoothly. The high lights are left to be filled in delicately, with a wash of sky blue and neutral gray, which extends *over* the shadow color, adding brown No. 4 for the tail and claws; using carnation No. 1, worked into ivory yellow, and touched with yellow ochre, where the claws connect with the body.

When dry, cover the shadow-color with a wash of deep chrome green, delicately worked into yellow ochre, which glazes the under-colors in firing, rendering them more transparent.

Eyes—outlined with ivory black; iris—ivory yellow, touched with yellow ochre, and violet of iron; joints and feelers—yellow ochre, shaded with violet of iron, adding brown No. 4 for the

darkest shadows on the joints, and dark green No. 7 for the green touches; Aufsetzweis for the high lights. Strong fire.

Oyster Shells.—Outside edge—light sky blue, worked in with very little carmine No. 1, and graduated into yellow ochre and ivory yellow, which extends to the shading tint surrounding the eye—composed of one part of ruby purple to four parts of neutral gray.

Touches.—On the outside edge—neutral gray and sky blue. These tints are delicately laid in, and blended with the dabber.

When perfectly dry, lay in the foundation of the eye with ivory black, leaving the lights, which are touched in with violet of iron, yellow ochre, brown No. 4, and sky blue—all thinly applied.

Foundation.—For back of shell—neutral gray, worked in with yellow ochre, sky blue, and brown-green; dark green No. 7, and brown No. 4, for deep shadows. By dipping the shell in water you can follow the colors more easily.

Oyster Plates, with divisions, will utilize this treatment to excellent advantage.

Treatment of Birds,

WITH DECORATIVE COLORING.

Paraquets.—Foundation color for the breast—moss green and mixing yellow; first shading—chrome green and brown-green No. 6; second shading—brown-green No. 6 and dark-green No. 7.

Front of the head, and neck, below the bill—ivory yellow, shaded with orange yellow; back of the head—olive green, with shadings of brown-green No. 6 and dark green No. 7.

Wings and Tail. — Foundation — deep blue, strengthened with ivory black; for the shadows and feather markings on the tail—brown-green No. 6 and yellow ochre, with touches of dark green No. 7. Cut out the lights with an erasing-pin.

Outline the bill with gray No. 2, the eye with ivory black, also the marking on the legs and claws, adding brown No. 4 for shading. The feathers on the wings are traced in with ivory black. Give a regular kiln fire.

Peacock. — Head — deep blue, extending into chrome green for the body and strengthen with dark green No. 7 and brown-green No. 6; underpart of the tail is laid in with yellow ochre and neutral gray; upper part is a combination of grass green and mixing yellow, shading with brown-green No. 6 and dark green No. 7.

The markings or eyes on the tail are deep blue, shading the lower part with ivory black, and, below this, a ring of yellow-brown, touched with brown-green.

Wings—yellow ochre, shaded with brown No. 4: feather markings—brown No. 4, full strength; legs, claws, and eyes are outlined with ivory black and filled in, when dry, with a delicate wash of yellow ochre and deep chrome green. Cut out the lights on the eyes, and tail markings with an erasing-pin.

The feathers can be indicated clearly by taking out the lights in the same manner. The red marking near the eyes is carnation No. 1. The seven feathers, projecting above the head, are ivory black.

You can enrich the effect in using gold for feather markings and high-lights. Regular kiln fire.

Kingfisher. — Breast — carnation No. 3, shaded with deep red-brown; back and tail—deep blue; shadows — blue-green, with touches of yellow

ochre. When dry, strengthen the shading with ivory black and brown No. 4, finishing with touches of yellow ochre and violet of iron.

Eyes and bill—outlined with ivory black, with the addition of sky blue for the local coloring.

Feathers—brown No. 4 and violet of iron, shaded with brown No. 4 and ivory black; neck, under the bill—carnation No. 1, shaded with gray No. 1, leaving the china for the lights. Outline the claws and legs with ivory black; when dry, cover this with a delicate wash of yellow ochre. Regular kiln fire.

Hemp Birds.—Head, wings, and tail—laid in very delicately with ivory black, adding brown No. 4 for shadow tint.

Back, breast and neck—jonquil yellow, adding orange yellow for shading. When dry, a combination of brown-green, with yellow ochre, and a touch of ruby purple, mixed thoroughly, is laid on for the gray shading.

Bill—orange yellow, outlined with brown No. 4. Regular kiln fire.

Owls.—Foundation, for the body—light gray No. 1; wings and tail are laid in with brown No. 4 and violet of iron. The outline of the bill and eyes are ivory black, adding brown No. 4 for shading the wings.

Ears.—Yellow ochre and violet of iron ; shadow tints—brown No. 4 and ivory black.

Eyes.—Pupil—Ivory black ; iris—ivory yellow, shaded with brown-green No. 6. Shading for the breast—ivory black and brown No. 4, with touches of yellow ochre and violet of iron.

Outline the claws and legs with ivory black ; coloring—yellow ochre. Cut out the lights, and indicate the feathers with the erasing pin. Regular kiln fire. Treatment with gold will be effective.



Humming Birds and Swallows.

BLUE-TAILED SYLPH.

Head—dark green No. 7, worked into chrome green B.

Neck—apple green and mixing yellow, strengthened into chrome green and brown-green, for the darker tones.

Below the bill—victoria blue and light violet of gold.

Wings—brown No. 4 and neutral gray for the foundation, and shaded with brown No. 4, full strength. The feather markings and outlines are laid in with the same.

Tail—victoria blue and light violet of gold, shaded with deep violet of gold, and touched with apple green and carmine No. 2. Take out the color for the light near the eye.

Bill and eyes—outlined with black and colored with neutral gray. Cut out the lights on the upper part of the wing feathers, and fill them in with silver yellow.

Feet—outlined with black and colored with neutral gray and yellow ochre.

CRIMSON TOPAZ.

Neck—ruby purple ; upper part of the back and head, violet of gold, mixed with victoria blue, shaded with two parts of victoria blue, one-half of ivory black, and one part of ruby purple.

Wings—deep chrome green for the tips, adding mixing yellow for the upper part, shaded with brown-green and dark green No. 7, with touches of yellow-brown here and there.

Tail—dark green No. 7, using victoria blue over it for touches.

Bill—outlined with ivory black, colored with neutral gray and sky blue. Eyes treated in the same manner.

KING HUMMING BIRD.

Head and two long tail feathers are violet of gold and victoria blue.

Back—sepia, shaded with brown No. 4.

Neck, under the bill—apple green and mixing yellow, shaded with chrome green B and brown-green No. 6, touched with dark green No. 7.

Breast—capucine red, strengthened with deep red-brown for shadows.

Tail—yellow ochre, shading with sepia, adding very little deep red-brown.

Top of the wings—yellow ochre, with shadows of brown-green No. 6 ; lower part and tips, violet of gold, shaded with ruby purple and dark green No. 7, adding touches of victoria blue.

Eyes and bill—outlined with ivory black ; colored with neutral gray and sky blue.

Feet—yellow ochre and neutral gray, outlined with black.

MEXICAN STAR.

Head and back—silver yellow, worked into apple green and shaded with brown-green and yellow ochre.

Second shading—dark green No. 7 and chrome green B.; the star feathers radiating from the head, near the eyes—ruby purple, shaded with same, full strength ; below the eyes—victoria blue ; below the bill—clear ruby purple, shaded with the same.

Tail—chrome green and dark green No. 7, shaded with dark green.

Breast—White, shaded with neutral gray and sky blue, with touches of yellow ochre and brown No. 4 for dark shadows.

Tip of the wings—yellow ochre and brown No 4 ; shadows—brown No. 4.

Eyes and bill—outlined with black and colored with neutral gray and sky blue.

Feet—yellow ochre, shaded with brown No. 4, and outlined with black ; high lights on the breast and eyes—enamel white.

VERVAIN.

Head—grass green mixed with mixing yellow ; back—blue-green, delicately worked into grass green and silver yellow ; shading with blue-green and brown-green No. 6; dark shadows—blue-green and dark green No. 7 ; darkest touches—brown No. 4.

Wings—yellow ochre and brown No. 4, shaded with the same.

Tail—yellow ochre ; shadows—sepia and carnation No. 1 ; dark shading—brown No. 4 and violet of iron.

Neck—Same as the back, adding touches of deep blue-green.

Breast—white ; first shading—sky blue and neutral gray ; second shading—yellow ochre and neutral gray, finishing with yellow ochre and brown No. 4.

Bill and eyes—outlined with ivory black and colored with neutual gray and sky blue.

Feet—yellow ochre and neutral gray, outlined with black ; high lights—reserved and touched up with enamel white.

ROFOUS SWALLOWS.

Above and below the bill—foundation—carnation No. 2, shaded with carnation No. 3; deepened with violet of iron.

Back—a mixture of deep blue-green and neutral gray, shaded with neutral gray and victoria blue, adding dark green No. 7 for darker shadows.

The wings and tail—neutral gray and yellow ochre, outlined with brown No. 4, touches here and there with blue-green.

Upper part of the breast—blue green, shaded with dark green No. 7.

Breast—foundation—neutral gray and sky blue; second shading—neutral gray and yellow ochre.

Bill and eyes—outlined with black, and colored with neutral gray and sky blue.

Feet—outlined with black and colored with neutral gray.

WHITE-BREASTED SWALLOW.

Head and back—a mixture of victoria blue and neutral gray, shaded with victoria blue and ivory black.

Wings—neutral gray, shaded with the same, adding touches of yellow ochre and violet of iron; tail treated in the same manner.

The white china is substituted for the lights on the breast; shadows—neutral gray and sky blue, adding delicate touches of yellow ochre and brown No. 4, to soften the foundation shadow color.

Feet — outlined with black and colored with neutral gray.

Eyes and bill—neutral gray and sky blue, outlined with ivory black.





Game

Is one of the most difficult branches of china painting, as so much depends upon the careful manipulation of the brush to give form and naturalness to the subject. *It is almost* impossible to describe minutely the characteristic finishing that good drawing produces on feathers and fur, so as to avoid all appearance of having been overworked.

Copy from nature when you can, and, in connection with the general treatment given in this chapter on coloring, you will be able to master the difficulties in time.

When it is possible, lay in the dark shadow colors first, reserving the high lights; apply them with a broad, flat brush which has first been dipped into tinting oil, then add a little turpentine, afterwards taking up the color on the under side of the brush, which is now ready for the painting.

PARTRIDGE.

Foundation color—brown No. 108, blended into carnation No. 1 for the head and upper part of the body.

Over the breast, wings, and tail, lay in a thin wash of yellow ochre, leaving the white china for the lights. While the colors are moist, stipple them evenly.

First Painting.—Outline the bill, eyes, wing, and tail feathers, also the feet and legs, with ivory black. When dry, fill in the wings, eyes, and tail with a delicate wash of violet of iron and yellow ochre, shading with the same, full strength.

The bill, feet, and legs are washed in with neutral gray, and shaded with the same.

Feather markings on the body are outlined with ivory black and filled in with a delicate wash of brown No. 4 and violet of iron.

Shade the upper part of the back with brown No. 4, strengthened with ivory black. Eyes—ivory back, with a little blue added.

Shade the breast with neutral gray, adding touches of yellow ochre; breast next to the bill, which is white, is shaded with gray No. 1, extending the same color to the lower part to tone down the white.

Feather markings can be indicated by the delicate manipulation of the brush, and taking out the lights on the feather tips with the erasing pin. Avoid stiffness in cutting out the lights.

Foreground.—Foundation—yellow ochre with brown-green No. 6; foliage—yellow ochre and grass green, shaded with brown-green No. 6.

SNIPE.

Lay in the shadow colors on the back, head, and wings, with ivory black and brown No. 4.

Over this a delicate wash of dark green No. 7 and yellow ochre, beginning with the head, extending the color over the body, reserving the lights and losing the tint towards the lower part of the breast, which is light gray No. 1. While moist, stipple and model the colors into roundness. Outline the bill, eyes, wings, tail, legs and feet with ivory black.

Coloring on the bill—orange yellow; on the legs—deep chrome green.

Second Painting.—Strengthen the shadows on the head and back with the ivory black and brown No. 4, delicately.

Breast and wings are shaded with dark green No. 7, worked in with brown No. 4; outline the lower part of the body with light gray No. 1, and soften the shadows on the breast with touches of yellow ochre.

Take out the lights with the erasing pin and indicate the feather markings with the shadow colors.

Water in Shadow.—Foundation—one part of neutral gray to three parts of sky blue; shadows—dark green No. 7 and yellow ochre, glazed with deep chrome green and sky blue; cut out the lights.

Grasses—a combination of mixing yellow and grass green for the light effects.

Dark Grasses—emerald green and brown-green No. 6, shaded with dark green No. 7.

Distant Grasses—yellow-brown and grass green, shaded with brown-green.

Sky.—Upper part—sky blue and turquoise blue, blended into yellow ochre and ivory yellow. Take out the lights and use enamel white for accentuated effects.

QUAIL.

Foundation—yellow-brown, mixed with brown No. 3—equal proportions—and laid on, full strength, for the upper part of the back, extending over the head, and graduated delicately down towards the center of the body with yellow-brown, adding very little brown No. 4; shading the breast and under part of the body with light gray No. 1, with delicate touches of yellow-brown here and there, saving the china for the lights.

A touch of carnation No. 1 next to the eye, and blended into brown No. 3 towards the neck; while the colors are moist soften them with the blender.

Outline the bill, legs, and feet, with ivory black; when dry, color them with neutral gray and brown-green No. 6. Outline the eye with black; pupils—ivory black, with a touch of blue added.

Feather markings—ivory black. The wings and center body-feathers are laid in with light gray No. 1, shaded with neutral gray, and with soft touches of yellow ochre.

The radiating lines, starting from the quills on the wings and body, are ivory black. These feather markings must not be too strong or regular. When dry, cut out the lights. Band on neck—ivory black; strengthen the shadow colors with corresponding tints; use Aufsetzweis for the highest lights.

Sky—turquoise blue, blended down into ivory yellow, yellow ochre, and carnation No. 1; warm gray for distant foliage and mountains.

Foreground—yellow ochre, worked in with violet of iron, grass green, and mixing yellow, shaded with neutral gray.

CANVAS-BACK DUCK.

Brown No. 3 and violet of iron for the foundation color, laid over the body very delicately. Over this tint, on the head, neck, and breast, a thin wash of yellow ochre is applied; a touch of sky blue next to the eye.

First Shading — Neutral gray and sky blue, worked into ivory black, for the dark shadows.

While moist, stipple the colors and model them into form. Outline the eyes, bill, wings, tail, legs, and feet with ivory black, using neutral gray and ivory black for coloring.

When dry, cut out the lights on the neck, bill, and breast; lay over the shadow color a thin wash of dark green No. 7, to tone down the brown, also to glaze it; add touches here and there with yellow ochre and deep chrome green.

Pupil of the eye—ivory black; iris—orange yellow, shaded with brown-green No. 6.

The lighest feather marks are brown No. 4 and neutral gray; medium in color—brown No. 4 and ivory black; darkest—ivory black.

Add touches of deep chrome green and neutral gray for the lights on the bill and legs; Aufsetzweis enamel for high lights on the body, eyes, etc.

WILD DUCK.

Head—deep chrome green; shading—dark green No. 7; breast—carnation No. 1, shading with deep red-brown.

Back—brown No. 3, shaded with brown No. 4; wings are outlined in black and colored with dark green No. 7.

Tip of the wings—brown No. 3; above this, two bands of white feathers, with a row of dark blue, shaded with ivory black, between them.

Brown No. 3 connects the wings to the body color, and shaded with brown No. 4; lower part of the breast has a thin wash of pearl gray, shaded with neutral gray and brown No. 4.

Bill outlined with ivory black and colored with orange yellow, shaded with brown-green.

Legs and feet—outlined with black and filled in with carnation No. 1, shaded with violet of iron; markings on the feathers—ivory black and and brown No. 4; reserve the white band around the neck.

Touches of deep chrome green, yellow ochre, and yellow-brown are applied for glazing and softening the tints.

Foreground — a mixture of yellow ochre and neutral gray, shaded with neutral gray and dark green No. 7.

Grasses—grass green and mixing yellow; shading tint—brown green and dark green No. 7.

Distant Grasses — grass green, yellow-brown and mixing yellow, shaded with brown-green.

Water—a combination of sky blue and neutral gray, shaded with apple green and carmine No. 2, with touches of turquoise blue and chrome green used separately.

ENGLISH PHEASANT.

Head—deep blue, shaded with ruby purple and dark blue; spot near the eye—carnation No. 1; bill—outlined with brown No. 4 and colored with gray No. 2; eyes—outlined with black and shaded with neutral gray.

Back—sepia, shaded down into deep red-brown and carnation No. 2 for the lower part of the body.

Wings and tail feathers—brown No. 4, shaded with neutral gray; dark markings—brown No. 4 and ruby purple; cut out the lights with the erasing-pin and lay over them a delicate wash of yellow-brown.

Legs and feet—sepia, shaded with brown No. 4; cut out the white on the neck, also the white

feathers on the top of the wings, substituting the china for the lights.

WILD TURKEY.

Dark green No. 7 and ivory black for the shadows on the back, including the wings and neck, diluting the color for the breast and lower part of the body.

Tip of the wings—yellow ochre; tip of the tail—violet of iron and yellow ochre, extending the color to the middle of the back.

Head—a foundation of carnation No. 1, delicately applied; lower part, towards the neck—victoria blue, shaded with victoria blue, ruby purple, and carnation No. 1, mixed.

Second Painting.—Outline the bill, eyes, wings, tail and feather markings with ivory black; also, the black bands on the tail, with the same color.

Legs and feet—sepia, shaded with brown No. 4.

RABBITS.

Brown No. 4 and ivory black on the back, blended into neutral gray and brown No. 4 on the lower part of the body; cut out the lights and stipple smoothly; breast and mouth—shaded with light gray No. 1.

Second Painting.—Outline the eyes, nostril, and feet with ivory black; when the foundation colors are thoroughly dry, lay over them a very delicate wash of three parts of brown No. 108, with one part of brown No. 4, mixed.

Define the fur markings—use a fine brush, with brown No. 4, and strengthen the shadows with the foundation colors.

When the colors incline to a gray, use brown No. 108 and neutral gray for the foundation, with touches of violet of iron on the dark shadows, and yellow ochre for the lighter effects.

Eyes—deep red brown; cut out the touches of white on the nostril and ears, shade with neutral gray, very delicately.

Foreground—brown-green and yellow ochre, worked into neutral gray and violet of iron.

Grasses—grass green, worked with mixing yellow, shading with brown-green No. 6, dark green No. 7, and yellow ochre.

Distant foliage—warm gray; sky—turquoise blue, blended down into ivory yellow and yellow ochre, very delicately.

SQUIRREL.

Foundation—brown No. 4 and ivory black, shaded with the same, full strength, adding a touch of deep red-brown with it, to obtain the reddish cast to the fur. Cut out the lights and stipple the colors smoothly.

The neck and lower part of the body shaded in with light gray No. 1 and a little yellow ochre added.

Second Painting.—Outline the eyes, nostril, and feet with ivory black. When the foundation

colors are dry, lay over them a delicate wash of brown No. 3 and yellow ochre, over the entire body, adding touches of violet of iron for the darkest shadows.

Eyes—shaded with neutral gray and yellow ochre.

GRAY SQUIRREL.

Foundation — brown No. 4 and ivory black, shading the upper part of the back with the same, full strength.

Second Painting.—Outline the nostril, eyes, and feet with ivory black. When the foundation colors are dry, a delicate wash of three parts of neutral gray with one part of yellow ochre, over the entire body excepting the breast and lights, which are cut out with the erasing-pin or scraper; strengthen the shading with brown No. 4; add touches of white on the breast and eyes with Aufsetzweis.

Tree Trunk.—Foundation—neutral gray, mixed with a little yellow ochre, shading with brown No. 4 and dark green No. 7.

Colors for Foliage.—Grass green, mixing yellow, yellow-brown, brown-green No. 6, and dark green No. 7.

DEER.

Foundation—to one part of ivory black add three parts of brown No. 4, beginning with full strength on the back and extending it delicately over the entire body, saving the lights; stipple and model smoothly.

When perfectly dry—lay over the shadow color a delicate wash of brown No. 3 and yellow-brown, diluting the tints for the lights, which must be laid smoothly without the aid of the blender,

Leaving the lights next to the nostrils, on the ears, neck, and lower part of the breast. Outline and shade the breast with light gray No. 1.

The horns, nostrils, and hoofs, with ivory black; the horns are colored with sky blue and neutral gray, worked in with yellow ochre.

Hoofs—ivory black.

Ready for the first firing.

Second Painting.—Strengthen the shading by using the same colors; glaze the rest of the body with yellow-brown, with a few touches of brown No. 4; eyes outlined with ivory black, and shaded with neutral gray and sky blue.



Decoration for Egg Dishes.

YELLOW CHICKENS.

Foundation—ivory yellow, extending over the body and shaded into orange yellow.

On the top of the head and back, under the neck, and on the breast—a mixture of yellow-brown and brown-green No. 6, with a touch of ruby purple added, to form a gray shading.

Second Painting.—Outline the legs and feet with brown No. 4, and colored with neutral gray and yellow ochre. Cut out the markings on the legs and color them with ivory yellow.

The eyes are traced with ivory black, and shaded with the same.

Strengthen the head and back with orange yellow; use the gray shadow color given above to deepen the shading on the breast, etc.; the bill is colored with orange yellow.

Cut out the lights, and mix ivory yellow with the Aufsetzweis, to raise the enamel effects on the feathers.

BLACK CHICKENS.

Foundation — ivory black and victoria blue, shaded with ivory black ; bill is treated the same. The china is substituted for the lights.

Feet and legs—brown No. 4, shaded with ivory black, and brown No. 4 added.

Second Painting.—Cut out the lights and add touches of brown No. 4 to the shadows.

Neck and breast—shaded with light gray No. 1, and strengthened with brown No. 4 ; indicate the feather markings with ivory black.

HEN.

Foundation—yellow ochre, worked in with violet of iron and neutral gray, for the body.

Wings and tail are shaded with yellow ochre and brown No. 4.

Neck—mixing yellow, shaded into orange yellow, yellow-brown and ruby purple.

Comb—carnation No. 2, shaded with capucine red, and touched with deep red-brown.

Bill—Yellow ochre and neutral gray, outlined with ivory black ; eyes—traced with black and colored with sepia.

Feet—outlined with brown No. 4, and colored with neutral gray and yellow ochre ; also touches on the wings are laid in with the same color.

Second Painting.—Cut out the lights on the body, wings, and tail ; add touches of turquoise

blue, very delicately, on the white feathers, to tone them down.

Touches of yellow-brown here and there on the body; darkest shading on the wings and tail—ivory black; and yellow ochre is added for the light effects on the neck. Aufsetzweis is added for strengthening the lights.

EGGS.

Foundation—pearl gray, shaded with gray No. 2, removing the color for the lights.

Straw nest—ivory yellow; first shading—orange yellow; second shading — brown-green, yellow-brown and ruby purple mixed.



PALETTE OF

Dresden and La Croix Colors for Figure Painting,

TO BE APPLIED AFTER THE DRESDEN METHOD.

Sky Blue	Ivory Yellow	Blue-Green
Air Blue	Albert Yellow	Shading Green
Turquoise Blue	Yellow-Brown	Egg Yellow
Dark Blue	Sepia	Yellow-Red
Rose Purple	Finishing Brown	Gray for Flowers
Dark Purple	Brunswick Black	Relief White
Light Carmine No. 1	Yellow-Green	Relief Yellow
	Carmine No. 2	

PRELIMINARY TO PAINTING.

Prepare the palette with all necessary colors. For the mediums, take two small, shallow cups: in one place fresh turpentine, in the other one part of oil of cloves, to the same quantity of fat oil, thoroughly mix, and incorporating them *as one*, dilute your colors sparingly with this medium, and you are ready for painting.

If you should use fat oil alone, particularly where colors over-lay each other, as in figure painting, fish, game, etc., they would blister in

firing, while oil of cloves "cuts" the fat oil keeps it open for stippling, and the turpentine modifies both into safe working condition.

Examine your brushes, which must be *perfectly clean;* have a sufficient number of them to insure a high key of pure colors, so characteristic of the Dresden method.

Enamel effects is another very noticeable feature in this method, which is always the final, finishing touch. You are cautioned against overloading your brush—an error that beginners, particularly those who are accustomed to oil colors, fall into in their desire to obtain a *body of color.* If this *is* required, get it by degrees, giving each tint ample time to dry, before continuing with the work.

TREATMENT OF FLESH, HAIR, DRAPERY, ETC.,

This branch of china-painting requires extreme care and study; avoid corrections as much as possible; do not omit details, for, under the most favorable circumstances, the painting can never be rapid. Your drawing or tracing should be perfect—*this is insisted upon;* no matter how carefully you may have succeeded with your color, a defect of this kind will render the painting valueless.

FLESH-TINTS.

Fair Complexion.—Two-thirds Albert yellow with one-third pompadour red, laid on in thin washes.

Florid.—Increase the proportion of pompadour.

Dark.—Add a little black and sepia brown to the above.

SHADOWS FOR FLESH.

Warm Shadows.—Albert yellow and pompadour red, with a little black ; this tint is applied under the chin, nose, and eyes.

Cool Shadows.—Brunswick black, blue-green, with a touch of pompadour red ; useful for half-shadows.

Grays. — Blue-green, mixed with Brunswick black, making a soft, transparent gray, for delicate complexions.

The degrees of these tints are readily secured by mixing more or less of the colors and dilution with the mediums. Do not apply them too moist, as they are to be laid over the under-color.

Cheeks.—Clear pompadour, very softly applied ; the same with more strength for the lips, adding a little light carmine for the second firing.

Nostrils, and Lobe of the Ears.—Pompadour red and sepia brown mixed, adding a little finishing brown to the above for deep shadows.

HAIR.

Black.—A thin wash of Brunswick black, mixed with a little carmine and finishing brown ; for the lights, use turquoise blue.

Gray and White.—Brunswick black and a little yellow-brown mixed, and turquoise blue for lights.

Auburn. — Yellow-brown, canary yellow, very little carmine added for lights; sepia brown, with little carmine, for shadows.

Light Brown.—Sepia brown, mixed with yellow-brown, for lights.

Blonde.—Canary yellow, yellow ochre, with a touch of black for shading.

EYES.

Hazel.—Sepia brown; add light carmine and finishing brown with it; for the pupils—very little Brunswick black to the above.

Dark Brown.—Same as above, only stronger in color.

Blue.—Turquoise blue, Brunswick black, and a little blue-green mixed, using finishing brown for the pupils.

Gray.—Sepia brown and blue; same as above for pupils.

Black.—Finishing brown and black, leaving the white of the china for the lights.

DRAPERY.

Yellow.—Ivory yellow for lights; canary and black for half-tints, mix with these yellow-brown and black for shadows.

Blue.—Turquoise blue for lights; dark blue, turquoise blue, and carmine for shadows.

Violet.—Turquoise blue and light carmine for lights; dark purple and turquoise blue for shadows,

for reflected lights on the shadows—sepia brown and yellow-brown mixed.

Red.—Carnation No. 1 ; add light carmine and sepia brown in the shadows ; for the second firing, a thin wash of light carmine over the lights.

Orange.—Yellow-brown and egg yellow mixed, for lights ; add black and yellow-brown and sepia for shadows.

Green.—Yellow-green ; use canary yellow and black for half-shadows ; shading green and sepia brown added to the other colors for dark shadows.

White.—Shadows for white—black, ivory yellow, turquoise blue, and carmine, mixed.

Black.—Brunswick black ; mix turquoise blue with it for the lights, and finishing brown and carmine added to them for shadows.

To paint gold jewelry.—A wash of canary yellow, with black for half-shadows ; with yellow-brown and sepia brown for deep shadows.

NEUTRAL BACKGROUND.

Canary yellow, a little carmine and air blue mixed. All Dresden colors require a *very strong fire*, particularly for the first painting.

METHOD AND MANIPULATION.

As the treatment has already been given for flesh, shadows, etc., they will not be repeated

again in detail. Begin with having the drawing correct and all alterations final before using the color. Apply the flesh-tint in broad, flat, delicate washes, using a square shader, adding a touch of carnation to the cheeks, pompadour to the lobe of the ears. Cool shadows—under the eyes, nose, and chin, followed by the warm tints.

Remove the color from the eyes and mouth, and, while moist, blend them all into delicacy, using two or three small stipplers—changing them, as they absorb the color. Dry the work thoroughly over an alcohol lamp.

Now put in the eyes and lips. Carefully remove the high-light on the nose and forehead—this could be more safely accomplished (to guard against hard lines) while the tint is moist—and stippling the edges and blending the tint, so that the china will form the lights, without having the glaze appear on the surface.

Apply the local wash for the hair and drapery; avoid getting it too heavy—or dark—in the first painting.

Another characteristic of the Dresden method is hatching and stippling. It is done to model and accentuate forms, especially in faces, hands, etc., but this is accomplished after the work has been carried as far as possible with broad, flat washes. Hatching is a succession of fine lines crossing each other, leaving small openings to be filled in delicately by stippling. It renders trans-

parency and roundness to the painting, and the lines should follow the contour of the face as much as possible.

To stipple well is of the utmost importance, as all of the delicate blending of the flesh-tints, shadows, grays, etc., are harmonized as one by this process; without it, the picture is unfinished and irregular.

The work, after drying over an alcohol lamp, should be carefully examined, and all roughness removed with an erasing pin or needle; this completed, give it a very strong fire. Afterwards, with a piece of pumice stone, first dipped in water (otherwise it would scratch the surface), remove any unevenness that may appear.

The colors are now repeated, but stippled in. Heighten the tint of the cheeks, define the separation of the lips with pompadour red, paint in the eyelashes, eyebrows, and eyes; deepen the shadows, touch up the lips with light carmine; put in the half-shadows, deep tones for the hair—avoid making it wirey.

Add the colors which are necessary to finish the drapery or accessories of the picture, and dry thoroughly again. Remove the dust, and give a strong fire the second time. The third process to be repeated, adding strength where required, and white enamel for extreme high-lights on drapery: and, if the carnations in the cheeks has lessened by firing, stipple over them to the desired depth required.

BUTTERFLIES.

The following treatment for Butterflies can be adapted with excellent effects in combination with flower-painting, or if used alone, they can be artistically grouped or arranged in flights, graduating their sizes as they approach the distance, on a clouded sky ground tint.

No. 1.—For the lightest foundation—jonquil yellow, shading with the same, add brown-green and a little orange-yellow.

Tip of the wings—yellow ochre, shaded with brown No. 4; body—neutral gray and yellow ochre, adding touches of dark green No. 7.

Second Painting.—Strengthen the shading with brown-green, adding very little ruby purple to it; markings and veining—neutral gray and violet of iron; touches on the body—dark green No. 7.

No. 2.—Outline with yellow ochre and brown-green No. 6. When dry apply a foundation of jonquil yellow to the upper wings, and shade with orange-yellow.

Lower Wings—orange-yellow and brown-green No. 6. Body laid in with brown No. 4; feelers—ivory black; markings—brown No. 4, and violet of iron.

No. 3.—Foundation for the body—brown No. 4, shaded with the same, adding a touch of ivory black for dark effects. When dry, cut out the lights and glaze them over with yellow ochre.

The wings are outlined with brown No. 4; the tips are delicately laid in with ivory black, using capucine red for the band across the upper wings—applying the same to the edges of the lower wings, and touched with deep red-brown.

The ribs or outlines on the wings are indicated with four parts of victoria blue to one part of ivory black, well mixed and delicately applied.

Feelers—ivory black.

No. 4.—Foundation—turquoise blue, strengthened on the shadow side with brown-green No. 6 worked into the blue.

On the light side the blue is delicately applied.

Body neutral gray, shaded with ruby purple and neutral gray. When perfectly dry cut out the veinings and lights, and lay them in with ruby purple and neutral gray, the same to be used for shading; feelers—neutral gray.

No. 5.—Foundation—blue-green, adding dark green No. 7 for shading—body the same. For light effects—emerald stone green, shaded with dark green No. 7. The white china substituted for the lights. When perfectly dry the markings are laid in with dark-green No. 7, and brown No. 4 – the same for the feelers.

No. 6.—Foundation for the upper wings—turquoise blue. For the lower wings—add a little neutral gray, shading with the same. When dry cut out the veinings and lay them in with neutral gray, adding a touch of brown No. 4—the same for the body and feelers.

No. 7.—Foundation—sepia, worked into carnation No. 1 for the red markings. Use ivory black for the outlining. The markings on the wings and body—violet of iron, shaded with brown No. 4.

No. 8.—Foundation—ivory yellow worked into yellow ochre for the light side.

Shadow Side—yellow ochre and brown No. 4, worked in for the shading. Markings and veinings—brown No. 4 delicately applied, adding a touch of ivory black for shading the dark side.

Violet of iron worked into the yellow ochre for shadows, next to the body. Touches of yellow ochre on the tip of the wings.

Dragon Fly.—Body, blue-green shaded with blue-green and ruby purple. Wings deep chrome-green, laid in delicately; next to the body—on the tips—apply mixing yellow.

Veinings—dark green No. 7, adding a touch of ruby purple.

Eyes—ruby purple and blue-green. Feelers the same.

For decorative effects, add jewels to the tip of the wings, using graduated sizes, and vary the colors; surround them with either dots of white enamel, relief paste, or circles of gold. Your own taste will suggest the treatment and arrangement suitable for the decoration in hand.



Bonbonnière, with Dresden and La Croix Colors.

Treatment of Bonbonnière.

Make a careful tracing of the figures, features, eyes, etc., with pompadour red. When dry, begin at the top and lay in the sky with a delicate wash of sky blue, graduated down into ivory yellow and light carmine. (Avoid ridges of color.) For distant foliage, take blue-green, mix with it a little ivory yellow and light carmine.

The foreground and trees are a mixture of canary yellow, yellow-green and carmine for the first wash, blending a little blue-green with it when touching up the foliage ; in the foreground and near the figures, use a little yellow-brown. Model the bank and put in a suggestion of flowers.

Female figure.—Flesh—delicate wash of pompadour red, mixed with Albert yellow, blend very little blue-green and black with it for shadows ; hair—yellow brown, with a touch of blue-green ; canary yellow for the lights ; bodice—canary yellow, mix yellow-brown and a touch of black with it for shadows ; skirt—turquoise blue, adding light carmine and a little black for shading ; pompadour red for shoes.

Male figure.—Same colors for flesh; hair treated with yellow-brown, adding blue-green with it for shadows; body and trowsers—light carmine and a touch of turquoise blue, adding very little canary yellow for shading; mantle—pompadour red, with touches of light carmine—same for cap; a little black and canary yellow for hose and shoes.

Instrument.—Yellow-brown; pegs, strings, and shadows—Brunswick black. When perfectly dry, strengthen the eyes and hair of both, with a little sepia; nose and mouth, with pompadour red.

Flower design.—Rose—light carmine, touched in the center with ivory yellow; for the asters—turquoise blue and dark purple; centers—canary yellow; for the little flowers on the right—pompadour red, and canary yellow for centers. Above the rose, the flowers are treated with canary yellow, which also apply to the small flowers below the asters. For leaves and enamel, see treatment given for rose plate; make it a rule to have the leaves near the yellow and red flowers, always blue-green.

Second Fire.—Use the same colors for the rose, to strengthen it; for the centers—a little dark purple; for the center of the asters—yellow-brown, and shade the little flowers with yellow-brown, adding very little black with it. Ivory yellow and carmine, to warm up the sky. Yellow-green, blue-green, and canary yellow, to freshen up the landscape. Yellow-brown and light carmine with it to soften the foreground.

If either of the figures or drapery require strengthening, glaze them over with corresponding tints. When perfectly dry, take a small brush and put in the little finishing touches, using carmine and a little canary yellow, and blue-green, for distant effects ; yellow-brown and yellow-green for trees and foreground ; darkest shadows are glazed on with sepia and yellow-brown.

The panels are celadon delicately applied ; the dots, scrolls, and bands are matt gold ; touches of enamel are reserved for the second firing, on foliage, etc.





ROSE PLATE WITH DRESDEN AND LA CROIX COLORS.



Treatment for Rose Plate.

Make a careful drawing of the design. Lay in the roses with light carmine. Observe the effect of light and shade, and follow them with color, diluted more or less.

Leaves.—Canary yellow, mixed with yellow-green, adding ivory yellow with it for the back of the leaves.

Light Leaves.—Blue-green and carmine. The stems are laid in with yellow-green, shaded with carmine and yellow-brown. Plate is now ready for the first firing.

Strengthen the Roses with carmine No. 2; touches of dark purple for the centers; for some of the outside petals of the roses, a little gray may be used. Darken the shadows of the leaves with a little yellow-green and Brunswick black; define the veins and serrated edges of the leaves with ivory yellow, and shading green mixed; shade the light leaves with carmine, adding very little blue-green. Do not get them too dark.

When the work is perfectly dry, put in the high lights on the roses, with enamel white, mixing with it enamel yellow for the leaves. Give a very strong fire, to fuse the colors evenly.

Royal Berlin Decoration with Lacroix Colors.

Deep Salmon Pink flowers.—Foundation—Carnation No. 1 shaded with yellow-brown, touches capucine red. Chrysanthemum centers (characteristic of Royal Berlin decoration), foundation—mixing yellow and violet of iron for shading with touches of brown No. 4.

Red Flowers.—Capucine red, shaded with carnation No. 1, yellow-brown on the edges, brown No. 4 and ivory black for centers.

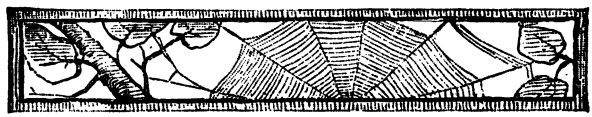
White Flowers.—Foundation—delicate wash of brown-green No. 6 on shadow side; while moist add a little brown No. 4 for dark touches. Blue effects, deep blue green with a little brown No. 4 mixed with it to soften the color.

Pink Flowers.—Carmine No. 1, shaded with warm gray and yellow ochre.

Purple Flowers.—Deep blue and ruby-purple mixed and shaded with the same.

Green shadow color back of flowers is a thin wash of celadon, strengthened in places with brown-green No. 6.

The strong red shadow used so much in this decoration, first foundation, carnation No. 1, graduated into ruby-purple, requiring two applications and firings to obtain the depth of color. Small white flowers on this shadow colors are cut out, thin wash, brown-green No. 6 for shadow side, centers, mixing yellow, touches yellow-brown, high lights, relief enamel applied for the last firing.



Glass Staining.

Materials Necessary.—Drawing and tracing paper; palette knives; glass muller and slab; diamond (the same as used by glaziers); goose quills, for etching; lavender oil and turpentine; tracers, different sizes; shaders, round and square; large deer-foot stippler or blender; small fitch-hair stipplers, and colors.

In the production of pictures on glass, fragments of colored glass are used, which are cut in pieces of the proper shape and united by lead.

In this way are formed the ground tints, skies, draperies, ornaments, etc.

The shades of the head, hands, etc., are then painted in vitrifiable colors, which, after being laid on, are burnt and fired into the glass.

The precaution should be observed in joining the pieces of colored glass, that the lead joints do not interfere with the effect of the picture.

That which characterizes painting on glass, and distinguishes it from painting on porcelain is, that both surfaces of the glass are used.

The surface placed towards the interior receives all the shades, which are thus rendered more life-like and better defined. All the lights of the picture are thrown on the other side of the glass.

By this means colors may be used which would be injured by contact with each other producing peculiar tints not desirable.

The colors used in painting on glass are principally metallic oxides and chlorides, and, as in most of these, the color is not brought out until after the painting is submitted to heat, it is necessary to ascertain beforehand if the colors are properly mixed by painting on slips of glass and exposing them to heat in the kiln as you will be guided by these trial pieces in laying on your colors.

As the effect of a picture on glass is produced by transmitted and not by reflected light, it is necessary that the colors, after being burnt on, should be more or less transparent.

As the colored glass which forms the ground is manufactured in glass-works, and is an article of commerce, it is necessary to consider here only the colors which are fired on.

The temperature at which they are fired is never raised above "Rose-color" heat.

In oil and water-color painting, the colors are rubbed up with oils, solution of gum-water, etc. In painting on glass, it is necessary to have a proper vehicle for the colors, which will become liquid at a red heat, and which performs the same

functions as oils, etc., in ordinary painting. *This vehicle is called a flux;* it envelops the color which is mixed with it, and glues it, as it were, to the glass.

The colors are known under the name of *vitrifiable colors*, which are mixtures of colors and flux, and are manufactured especially for glass painting.

The colors are prepared on a ground-glass slab, with very little turpentine and lavender oil, and applied with a flat brush.

Before using them, however, it is necessary to try them on small pieces of glass, and fired, to ascertain if the desired tone of color is produced—to be used as guides or proof pieces, for reference.

The proper glass for receiving the colors should be uniform, colorless, and difficult of fusion.

A design must be drawn upon paper and placed beneath the plate of glass. It would be impossible to regulate the tints directly by the palette, but by specimens of the colors produced after firing.

The upper side of the glass being sponged over with gum-water affords, when dry, a surface for receiving the colors without a risk of their running irregularly, as they would be apt to do on the slippery glass.

First draw on the plate with a fine pencil all the traces which mark the outlines and shades of the figures. This is usually done in black, or at least, some strong color, such as brown, green, or red.

In laying on these, you are guided by the same principles as the engraver when he produces the effects of light and shade by dots, lines, or hatches; and use only such colors to produce the shades which will harmonize best with the colors to be applied afterwards; but, for the deeper shades, black is in general use.

When this is finished, the whole picture will be represented in lines or hatches similar to an engraving finished up to the highest effect possible.

Afterwards, when dry, the vitrifying colors are laid on by means of large brushes, this selection being regulated by the burnt specimen tints.

When you find it necessary to lay two colors adjoining, which are apt to run together in the kiln, one of them should be applied on the back of the glass.

The yellow, formed with chloride of silver, is generally laid on the back.

After the painting is completed, proceed to bring out the lighter effects, by taking off the color in the proper place, with a goose-quill, cut like a pen without a slit.

By working this upon the glass, the colors are removed from the parts where the lights should be strongest, such as the hair, eyes, the reflections of bright surfaces, and light parts of draperies.

The blank pen may be employed either to make the lights by lines or hatches, and dots, as is most suitable to the subject.

Pulverized lime (that which has been subjected to a thorough drying), can be laid on the bottom of the kiln, or upon plates or tiles, and the glass rested on the lime; several layers of glass may be placed in the kiln together, with layers of lime between them. This is the better arrangement.

As the paintings retain considerable oil, it is necessary, when the kiln is first charged, to heat gently, in order to volatilize or decompose this oil, leaving the opening of the kiln uncovered.

When the oil is driven off, the kiln is closed and the fire increased. A greater or less intensity of heat can be regulated by turning down the flow of gas.

The temperature suitable for burning is judged of by placing in the kiln pieces of painted glass, fastened to wires, which can be drawn out through the opening; *in this way* the progress of the burning may be closely watched.

If you are in doubt as to the length of time for firing, it is better to turn off the gas, at the risk of having the painting short-fired, instead of allowing the glass to reach the melting point.

"White" heat would reduce the glass to a shapeless mass, and in case this occurs directly upon the firing-pot, any endeavour to remove it would result in damaging the kiln.

If any parts are defective, they may be retouched and put in the kiln again and extend the time of firing, repeating these experiments until the proper degree of heat has been secured, and the

kiln has been allowed to cool entirely, before the glass is withdrawn.

The Osgood Art School Matt and Bronze colors produce very beautiful effects upon a plain or ground-glass surface, and are semi-opaque.

When the designs are detached flowers, they can be connected with lines of relief paste, forming a web-work over the glass, and, after firing, treated with matt gold.

On the white or "milk" glass, a background can be laid with Royal Worcester colors, and decorated with flowers and gold, following the treatment the same as if you were working upon a china surface. They require one-fourth flux.

Clear glass can be embellished with relief paste, fired, and covered with matt gold. Enamels or jewels can be introduced to form small decorative designs, flowers, etc., in connection with the paste.

A visit to places where collections have been made by first-class dealers in china and glass, many useful suggestions will present themselves, which had not been thought of before in connection with glass ornamentation.

Notice the accuracy with which the paste, gold, and jewels have been applied. This can be attributed, in a degree, to the fact that *experiments are limited* as compared with china painting, and only the skilled workmen are employed to em-

bellish the finer qualities of these beautiful works of art. This need not discourage amateurs, who are able, with patience, to produce creditable work in this direction.

It will be interesting to know the substances from which glass and porcelain colors are obtained, at the same time you are not encouraged to make any experiments in preparing your own colors, ending, as it would invariably, in disappointment.

Leave this branch of industry to manufacturers, who have not only supplied every requisite in colors, but are constantly adding new tints as the demand increases for them.

Blues are obtained with the silicate of cobalt. The oxide of cobalt must be in a state of silicate in order that the blue color may be developed. The color once produced is unalterable at all temperatures.

Greens are obtained with the oxide of chromium, or with deutóxide of copper, or with mixtures of oxide of chromium and silicate of cobalt, when bluish tones are wished. When these colors are required to be transparent the oxide of copper is used instead of the oxide of chromium.

Yellows are commonly obtained by means of antimonic acid and the oxide of lead (litharge). Sometimes stannic acid (peroxide of tin) is added, and oxide of zinc, and often, also, some subsulphate

of the peroxide of iron, prepared by exposing to the air weak solutions of the protosulphate of iron (copperas).

These colors do not change in the firing, but they disappear almost entirely at a high heat. They are easily altered by smoke, by which the oxide of lead is reduced, which produces a dirty gray.

Beautiful yellow tones may be produecd on glass by placing on its surface a layer of three parts of pipe-clay, well burnt and pounded, and rubbed up with one part of chloride of silver.

The glass is then submitted to the heat; after cooling, the layer of clay is removed and the glass is stained yellow.

The tint depends on the nature of the glass and the proportion of chloride of silver.

Colors of Gold.—These are carmine reds, purples, and violet, made by means of the precipitated purple of cassius. These colors are very delicate, and are the only ones which change their tint in in the fire; underfired they are of a dirty violet tint, but are changed into a lively and pure tone, by a moderate burning.

In a stronger fire these colors become yellowish, and even completely disappear.

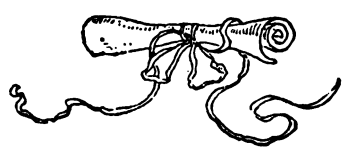
The purple powder of cassius gives a purple by itself; mixed with chloride of silver, which gives

to it a yellow, a carmine tone is produced ; with a little cobalt blue, it is rendered violet.

The reds, browns, etc., are obtained with the peroxides of iron.

The blacks, grays, etc., with the oxides of manganese, cobalt, and iron.

In Conclusion.—While this manual makes no pretensions towards being an exhaustive treatise upon china painting, it is hoped, by its plain, simple statement of facts, to have rendered valuable assistance to amateurs, and, if they find anything suited to their own requirements, then its object has been attained.



All who are interested in china decoration will read with pleasure and profit the following article upon Staffordshire Potteries.

It cannot be considered a digression, continuing as it does the subject in part of the preceding chapters, in a very interesting and entertaining manner, which will attach a greater interest to our collections of English ware, now that we are better acquainted with the place from whence it came, and of the Potters who made it.

Staffordshire Potteries and Folk.*

By Edgar L. Wakeman.

STAFFORDSHIRE, the principal seat of the English potteries, is an inland county, lying near the center of England. Long and narrow, something like a rhombus in form, it separates the four midland counties of Derby, Leicester, Warwick and Worcestershire, on the east, from the two important western shires of Cheshire and Shropshire, and extends north and south, one-fifth the length of the kingdom.

It has no great place in history. The old monks were not attracted to it as a region in which to build splendid abbeys. Antiquarians have not found much in it to wrangle over. It has inspired little in romance and song. No one ever came to it a second time for its beauty. Forbidding and unfertile hills merge into flat and monotonous

* By permission of the Author.

meadows in the south. Along its middle reaches are the coal-pits, and the near forges with the dismal thunderings. In the north, even less comely than the south, begin the bleak, bare elevations of Bunster and Weever, the true English moorlands which stretch, with varying height and dreariness, north through the entire kingdom, spreading into the wild and desolate mountain-moors of Yorkshire, Durham and Northumberland, until lost among the mists of Scotland which sway and sweep above the mournful Yarrow and murmurous Tweed. It has a few commonplace streams; one little lake, measured by yards; and one river, the Trent, the third in size and extent in England, though unnavigable, which springs from little Newpool, near Biddulph at the edge of Cheshire, flows southeasterly through the entire shire; but with never a glen to invite legend, nor a cascade to make or inspire song.

Two Roman roads or military ways, Watling Street and Icknield Street, intersecting, cross the shire from east to west. If you will tramp to the Longwynd Hills, over in Shropshire, you can trace the trackway worn white and bare to the eternal stone, over which the Romans brought supplies of pottery, 1800 years ago, from the Severn valley and Staffordshire, to their military stations south and southwest of ancient Uriconium.

At least the curious old books will bravely tell you that is how the huge, bleached furrow you will see was dug through the gorse and hare-bells of the wild and unlovely waste. Better ways than these now traverse the shire. Canals gleam along valleys, glisten above viaducts and penetrate mountains, making seaports, of every busy town; and, with the railways, they have cut old Stafford into more curious patterns than a grandam's "broken-dish" patch-work quilt.

The shire was once all forest land. That was not long ago. But they assert in Staffordshire that all these old forests were felled and the whole shire formerly made bare, simply to fire the old-fashioned ovens. Out of these came the tygs, posset-cups and pots of the Roman time, when huge, strong mugs were good enough for drinking-purposes, the Delft pitchers and porringers of the Norman period; down to even those marvellous achievements of the Wedgwood time, when the priceless Barbereni, or Portland, vase was not only duplicated but excelled in fifty wondrous copies. Then came the era of coal and clay in Staffordshire, or more properly speaking of Wedgwood, clay and coal. Somebody has computed that you could walk on crockery over all the area of Staffordshire, which comprises about 750,000 acres of land, if all that ever went out of

the shire could be brought back and set down piece by piece within it. But without one primeval tree, and with room for but few others save in parks and demesnes of the nobility and potter gentry, Staffordshire is still a forest: in the south and center a mighty forest of chimneys where coal and iron endlessly burn and fuse and pollute the land from flaming caverns at the feet of leviatree-trunks of brick, from whose tops overspreading arms of smoke wheel and turn with the wind, and the blessed sunlight rarely filters through their thick and sulphurous pall-like foliage. In the north, still a forest of chimneys in the Pottery District so dense, here with the great ovens at their feet looking like monstrous ten-pins of giants, that, standing in the tower of the old church at Henley, through the stacks of Turnstall, Burslem, Milton, Bucknall, Longton, Stoke-on-Trent, Henford, Lane End, Penkhull, Newcastle and Etruria, you cannot clearly define in half a dozen tiny spots the dreary horizon-line.

This hideous transformation, out of which such vast utilitarian stores and countless articles of beauty have come, has been the work of little more than a century. Pottery work of 300 years ago can be definitely traced to Burslem. The town was then known as a butter pottery, that is, a pottery where pots for keeping butter were made.

Then in 1690 along came two ingenious Hollanders named Eler. They introduced a new form of glaze secured by superficial vitrification of the clay through the superheated fumes of common salt. The Elers also brought to Stafford the unglazed red China method from the east. This was all very wonderful for that time, but by and by white ware made its appearance through an accidental discovery. On a journey to London, one of the Burslem potters had powdered flint recommended by an inn-hostler, for his horse's disordered eyes. To more easily pulverize it, a flint stone was thrown into the fire. The potter saw that the flame changed it to a pure white. Flint stones were gathered in the south of England, sent to Staffordshire in large quantities, mixed with tobacco-pipe clay, and pure white stoneware was produced. The crushing and grinding mills for pulverizing flint, mixing it like flour with water, and serving it in paste of any desired consistency, were only a matter of time. Then, in 1763, Josiah Wedgwood perfected earthenware for the table—whose delicate cream color is so attractive to collectors—which so pleased the Queen, that she gave to it her name and patronage. The word *Queen* was stamped in all these dishes. Hence "Queensware" of that and the present time. Following this, came the most bril-

liant career ever enjoyed by manufacturer. The story reads like an Arabian Nights' tale. This one man Wedgwood, not a learned man from the collegiate standard, a cripple through a malignant disease in youth, and not one who had inherited prestige or substance, seemed to possess the audacious originality of all real genius, inconceivable patience, and, above all, an unswerving loyalty to true art. With these qualities, he so wedded art to refined progress and utility that there was recovered from the whole sweep of the known past nearly everything of true beauty that had been revealed to the potter. With marvelous rapidity of conception, development, application and adaptability, he not only recovered and re-created what seemed irreplaceable, but established to endure new standards in the noblest ideals possible to ceramic art. In a word, fifty centuries of art effort were by his brain and hand concentrated into fifty years of incomparable creations. More wonderful than his own work, taste kept abreast of his exquisite revelations. Nearly a century has elapsed since he died here at the Etruria he built. To be exact, it is just 96 years. But in all this interim of progress, no added precious secret in ceramics has been disclosed. It almost seems that this was the one man predestined to come and throw open wide the door upon their exquisite mysteries. It

is no wonder that single pieces from his hand are now worth the value of a king's crown.

But all this is well known. Wedgwood is buried in the modest church-yard over there at Stoke. There is no cenotaph or column above his grave, but his monument is in every refined home throughout the world. It is also in the complete renaissance of one of the most useful, enduring and lovely of all the arts. It is visibly and practically here in Staffordshire, in this great cluster of pottery towns and cities, housing fully 200,000 people; and, in the outlying villages, and through the vast outreaches and interchanges of the Staffordshire pottery trade, which alone supports more than half a million souls. And best of all, to us, it is in the reduplication in our American cities, of these great establishments, where our own labor and our own capital are gradually acquiring such skill and rewards that, before a new century shall come, the deserving fame of our own ceramic art shall vie with that of any land.

But there is other interest in the potteries than that connected with their mercantile facts and figures; with their extraordinary art development, compelling the employment of the most noted and skillful decorative artists in Europe; or even with these bewildering show-rooms of tiles, vases, plaques, candelabra, state table services, chimney-

pieces, multifarious ecclesiastic decorations, Etruscan embellishments, enamels, cabinet-settings, piatti di pompa, Samos bowls, seals, reliefs, medallions, cameos and intaglios, without end in variety and number. This is in the every-day life, habits, aspirations, character and amusements of the potters themselves.

I believe not a kindlier, more comfortable or contented, folk live, than these Staffordshire potters. There are economic reasons for this which American manufacturers could study with profit. While rivalry between manufacturers is of the keenest, unvarying provision is made against periods of depression; so that at all times there is unbroken sustentation of labor. If slight reduction is ever necessary, it is only in the quantity produced. Wages, invariably by the "piece," are never reduced. Every penny due every man is paid him each Saturday noon. The result is, workmen are sure of certain income. This just and humane treatment makes good citizens and comfortable homes anywhere. But the universal good nature of the Staffordshire potters is attributed by themselves to a curious hereditary belief. "Working in earth," they say, makes them "easy-minded."

There are preserved many sunny pictures of the master-potter's home in the 17th and 18th cen-

turies. The genial autocrat of pitchers, jugs and porringers of that time, whose workmen lived in thatched hovels not fit for swine, were each supposed to exist in an ample thatched and timbered dwelling, with deep eaves and leaded casements, built against, or around, the pot-work itself. You entered either from the street or the garden a roomy houseplace or kitchen. In a gable next the pot-work was a capacious chimney-place, and opposite this was the parlor. The houseplace had its ponderous settle, its leather-covered easy-chair, a shelved dresser, clock, and tables. Behind the dresser the crateman's scores were chalked; and on the dresser shelves were displayed the masterpieces of the potter's art of that time. Snug and comfortable as all this was, you can find 10,000 homes of potter workmen, within a five-mile radious of Henley, where the poorest potter of the district lives as snugly as his master predecessor. His cottage is of brick. It has two stories, and the blessing of perfect drainage. On the ground-floor are a parlor with a pretty fire-place, a large living-room provided with a huge grate, hobs and "jockey-bar" for swinging pots and kettles; and behind this is a scullery, with a fine little garden at the rear. The upper floor comprises two large sleeping rooms. This gives every potter-family here a five-roomed, completely detached house

and garden. Ordinary workmen earn the year round from 25 to 30 shillings weekly. If there happen to be daughters, one may be a "paintress," coloring the cheaper wares and earning eight shillings, and perhaps another a "burnisher," earning 6 shillings per week. Many families thus secure 35 to 40 shillings per week; while the potter's rent and rates do not exceed 20 shillings per month for such a home. Many of the homes have area flower-plats. In the gardens of all are mazes of flowers and vines in summer. Every potter's parlor must have its solemn-voiced "grandfather's clock." It also boasts chests of linen, drawers of comfortable clothing, and many cheap and pretty pieces of furniture; while on the mantel or bureau-top is always found some fanciful sketch, painting or curious model, pertaining to the potter's vocation; the result of emulation to win prizes for invention in new processes, or for unique and original designs in modeling and decoration.

The potter's daily routine is an inevitable one. At 6 in the morning he leaves home, "Tommy" or "snap'n" (his breakfast, dinner, or both) in a red cotton handkerchief in one hand, and in the other, his can of coffee, which he heats on the "pot" that is used in drying the ware before burning. He works little or much, at will, from the opening of the pottery gates at 6 in the morning,

until the same hour in the evening, when he returns home to tea. This meal consists of bread, butter and tea, with any handy trifle left over from the home meals of the day ; but always includes, in season, cress, radishes or onions, from his little garden. His work is endlessly hot and dusty, and he "hungers for green things" ever. After his evening meal, he is found, until bed time, at the public house, or with groups of his fellows at the street corners, or in the market-place, grinning at mountebanks or unctuously joining in the services of the "salvationists." If devout—and however much these men frequent the "pubs," they are nearly all enthusiastic Wesleyans—on Sunday they are found at prayer-meeting before breakfast, at Sunday school again in the afternoon, and at service at 6 in the evening. Between 4 and 6, on Sunday afternoons, with their families they will number a round 100,000, strolling along the clayey roads and lanes.

Their dialect, somewhat similar to that of the lowly in Cheshire, is worthy of illustration. An old lady, impatient of what she conceived to be my "oopstart" bookish ways in arriving at exact information, remarked to me with some show of spirit: "Theigh thenkst theyt sumbuddy, with theight dicsonary nonsense. But oi thenkst theight a reg'lar feu (foo, fool)!"

A potter will greet a fellow with: "Well, Tum (Tom), lad, haa dew?" "Haa dew?" is the invariable answer. "Er" is universally used for "she," and degrees of nearness are indicated by "It's aymest nearest." The following conversation, which I caught from two potter "throwers" at their work on a Saturday morning, regarding a prospective visit to the playhouse, of which they are all very fond, is as good an illustration as can be given of Staffordshire dialect among the lowly.

"We'rt goin' t'night?"

"Well, w'ats say bait goin' t' plee!"

"Well, w'ats theighr on?"

"King Dick."

"N' w'ats t' after-peyce loike?"

"Well, oi canna just remember naa. But oi dasseay et 'll be a proper good fearce."

"Wer shan we meight (meet)?"

"Oi'll seey theigh 't thee-ay-ter dooar."

"Aye, theait'll dew."

"Oi'll be theer!"

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AND

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*Matt Black	30
Gray.	
*Matt Neutral Gray	30
*Matt Warm Gray	30
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*Matt Pink	40
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*Matt Flesh Red	40
Matt Brick Red	40
*Matt Dry Red	40
Purple.	
*Matt Purple	50
Violet.	
Matt Violet	50

Blues.

*Matt Light Blue	$0 30
Matt Turquoise Blue	30
Matt Paris Blue	50
Matt Deep Blue	30

Greens.

*Matt Olive Green	30
*Matt Blue-Green	30
*Matt Dark Green	30
*Matt Light Yellow-Green	30

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*Matt Yellow-Brown	30
*Matt Brown	30

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*Matt Gold Yellow	30

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*Gold Relief Paste	30

* Necessary colors for small list including Bronze Colors marked * page 205.

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Matt Bronze Brown	30
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